Voiceover: This program is presented in partnership with the Chicago Navy Memorial Foundation.
(Theme music)
Voiceover: The following is a production of the Pritzker Military Museum and Library. Bringing citizens and citizen soldiers together through the exploration of military history, topics, and current affairs, this is *Pritzker Military Presents*.
Schwan: Welcome to *Pritzker Military Presents* featuring a discussion with Admiral William Moran, Vice Chief of Naval Operations. I'm your host John Schwan, and this program is coming to you from the Pritzker Military Museum and Library in downtown Chicago, and it is presented in partnership with the Chicago Navy Memorial Foundation. This program and hundreds more are available on demand at PritzkerMilitary.org. In over thirty-seven years of service in the US Navy, Admiral William Moran has held command positions at sea and ashore. As a flag officer he has served as a commander patrol and reconnaissance group, director air warfare on the staff of the chief of naval operations, most recently as the 57th chief of naval personnel. His operational tours span both coasts, commanding patrol squadron VP-46 and patrol and reconnaissance wing two. He served as an instructor pilot in two tours with the VP-30 and as a staff member for the commander carrier group 6 aboard the USS Forestall. Also he served as executive assistant to the chief of naval operations, executive assistant to commander US Pacific, command deputy director navy staff, and assistant Washington placement officer and assistant flag officer detailer in the Bureau of Naval Personnel. On May 31, 2016 Moran assumed duties as the navy's 39th vice-chief of naval operations, and in this role he serves as the senior naval advisor to the secretary of the navy and the chief of naval operations. Admiral Moran is a native of New York and graduated with a bachelor of science from the United States Naval Academy and a master's degree from the National War College. Some of the admiral's awards include the Distinguished Service Medal, Defense Superior Service Medal, and the Legion of Merit five awards, among many others. Please join me in welcoming to the Pritzker Military Museum and Library Admiral William Moran.
(Applause)
Schwan: We want to start with your current job.
Moran: Well, as the vice chief I serve with the pleasure of both my service chief Admiral John Richardson, who has been to this museum in the past and has spoken on similar issues, and our secretary of the navy, secretary of defense, and of course the president. So you identified me as the senior advisor to those officials, and I think that's probably a pretty accurate role. I try to bring my experiences from a variety of different backgrounds to provide advice to senior decision makers in the navy, Department of the Navy, but also as a member of the joint chiefs in that role. So I spend most of my time frankly developing the budget that builds the navy of the future. We operate on these things--I won't even go into the acronyms, but we do a five-year budget every year over and over again and try to project what our costs are gonna be to build capabilities and capacity across the navy to be able to defend a country in a variety of different areas around the globe. And then I spend a good amount of time on people stuff. As you can imagine with 330,000 active duty, 60,000 reservists, and over 200,000 civilians in our service, it's a pretty busy place on the people side of things, so I spend quite a bit of time there as well. It's a great job. I love being part of this. I tell people all the time, the best part is I don't have to worry about what tie to put on in the morning or what color suit I'm wearing or the color of my socks. They're already predetermined for me, and that's saved my

bacon on more than one occasion every time I wake up in the morning. So anyhow, it's great to be here, John. Thanks for having me.
Schwan: Okay, why did you decide to join the military?
Moran: I have no earthly idea.
Schwan: That's good.
Moran: No really, I really don't. To be perfectly frank, I was an athlete more than I was a student growing up, and I wanted to go off and play Division 1 basketballs somewhere in the country. I grew up thirty minutes from West Point, and most people--I see some army folks out there--say, "Why didn't you go to West Point?" and I go, "Exactly." A little too close to home. I wanted to get away from home. And the navy basketball program came calling one day, and I'd never been south of the Jersey Shore in my life at that time. And visited Annapolis, and I almost immediately fell in love with not only the town but the campus. The teams that I saw marching around that campus, the camaraderie that existed--it was a pretty easy choice at that point. It really wasn't about the military for me; it was about being part of a team.
Schwan: Now, did you have a plan--
Moran: Plan?
Schwan: --when you entered the navy?
Moran: Not at all.
Schwan: Good. I always worry someone's got it all mapped out--
Moran: No, I changed my mind about every other day while I was there.
Schwan: And what did you ultimately decide on. Being an aviator?
Moran: Yeah, I ultimately decided to do that. Again, it wasn't a plan. It was a lack of a plan actually that got me there in the sense that at the naval academy you select what community you want to be part of, whether it's submarine force, surface force, aviation, marine corps, seals, and medical and a few others. And you get to choose based on your class rank. And I'll be the first to admit that I made the top two thirds of my class possible.
(Laughter)
Moran: So I was near the end of that line, and the person in front of me and the person behind me, we were all kinda talking about--I hope there's a spot for me when I get to the end of the table and I can pick what I want. And we just chatted. And up until that moment I didn't really know what I wanted to do.
Schwan: Now, I have to ask--the person in front of you, the person behind you in that line--
Moran: Thank God there were people behind me. That's all I can say.
Schwan: Are they admirals?
Moran: I can't recall. They probably are. So by the time I got to the table, it was--there were a couple pilot slots left. I had the eyes to be able to go down that path. And there were some slots left in the surface community, but nuclear power or submariners were always near the top of the class 'cause you had to be really smart, engineering major, and be able to handle the curriculum that goes with becoming a nuclear engineer, so I chose pilot. Sounded cool, sounded fun.
Schwan: And what aircraft did you--
Moran: I ended up flying my entire career in the P-3 Orion.
Schwan: Which is?
Moran: Anti-submarine aircraft.
Schwan: That's the one with the radar thing on the top of it?
Moran: No, but there's a variant of that aircraft that has that. The straight-stick, as I call it, P-3 Orion was purely antisubmarine warfare growing up chasing Soviet submarines around the Atlantic and Pacific and making sure we knew where they were at any given

moment. So that's what I did. That's what I flew. I had an opportunity to deploy and be part of a carrier strike group on commander carrier group 6 on the Forestall, as you mentioned, back in 1989 and'90, which was an interesting time of the United States as the Soviet Union was collapsing around us. But I am not a carrier aviator. I did not fly jets of a carrier, although I got to be a passenger in several. And several of my classmates were pilots on those jets and were all too eager to take me on a ride and bend me like a pretzel in those things. So anyhow it was--being an aviator is a wonderful thing, but so is being a submariner, surface warrior, SEAL. You guys can do just about anything you want if you guys really want to wear this uniform someday.
Schwan: These are a little--we always inject a few personal questions. What does the service mean to you and your family, since it's been the bulk of your life?
Moran: Yeah, so I was born and raised by two teachers. My dad was educated in New York City, Manhattan University and then went on to Fordham for his masters and doctorate degree. But he was a high school teacher, high school coach. My mom was a high school teacher, high school coach. They met somewhere along the way, and here I am. But it's in our blood. I think most people who grow up in a family that's in some form of service--firefighters, policemen, volunteer workers, teachers--it kind of gets in your blood. And for me it was watching all the people that had been taught by or coached by either my dad or my mom who ended up being my coaches or my teachers, believe it or not. And I admired them, and so that attracted me to this idea that I wanted to be part of that kind of life. So it's not a surprise that that team approach to what's in my corps, extended into sports, and then extended into where I went to school and then where I've chosen to make a career.
Schwan: What experiences contributed to you making it in the service?
Moran: I'd say the most important one was learning--at some point being given the opportunity to be an instructor pilot. There is nothing like flying every single day with some young man or woman who's trying to kill you.
(Laughter)
Moran: That's what being an instructor pilot is, is you're trying to save your own life by teaching that young man or woman that's it good to land safely every time. But it teaches a lot--it teaches you a lot about yourself. You have to be an expert. You have to really master the material and be able to communicate some really complex ideas simply so that somebody grasps something and is able to turn that light bulb on in their heads that all of a sudden they figure out that I can do this and that I can do it well and that I can master it. So that instructor duty really was very important to me early in my life, so I started being an instructor about two years into my career. And in my bio you see there I instructed a number of times, and that was very, very important.
Schwan: Aside from your parents, who were obviously your mentors--
Moran: Yes.
Schwan: --who else became a mentor of yours as you moved through your career?
Moran: Yeah, it's interesting. It ebbs and flows. Sometimes mentors are people that you look up to that are senior that have been through several things that can give you some ideas about how to think about your career but also about how to think about solving problems, dealing with tough issues. But the longer I serve, the more I really valued mentors who are actually subordinate to me. People who are really talented but who saw the world from a different perspective and were able to offer those ideas along the way. And I really get a lot out of my mentors, who are chief petty officers to lieutenants to--you name the rank structure. Those people that you come across that have a tremendous ability and potential also help you as a leader. So I've got a lot of mentors out there. Trying to spread my wings a little further left and right when it comes to not just the military side but people who are in the coaching business, teaching business,

professors, academia, lot of folks. So I don't have one mentor or two. I've got many. I think we all need that.
Schwan: And do you spend time non-military teaching leadership?
Moran: I go down to the naval academy, try to go down quarterly and teach leadership and ethics to every class. Plebe class, sophomore, junior, and senior classes. I get far more out of it than they do. It's a great escape from the Pentagon. But it's also a great place to learn what's on young people's lives as they're trying to decide what they want to do, where they want to be part of the navy, and what they future holds.
Schwan: So your view is not unlike the army--the sergeants run--
Moran: Yeah.
Schwan: --everything and then.
Moran: We're just lucky to ride on their shoulders all over the place.
Schwan: 'Cause they've done it all. Now a few of these are--
Moran: --tougher questions?
Schwan: Yes.
Moran: Okay.
Schwan: So just have a sip of coffee and relax. The navy recently has been in the news for the two high profile ship accidents. Speaking personally we don't expect that of the navy. And I--you know, we're all citizens also. But I expect the navy to be a very controlled environment and you know what you're doing. We lost seventeen sailors on the Fitzgerald and on the John McCain. Within parameters you're comfortable with, what happened?
Moran: Yeah, well, there are some parameters here, 'cause there's a court martial--several court martial cases going on. There's legal jurisdictional issues with families--
Schwan: Which, we're fine with that.
Moran: So I will tell you, the two reports, two reviews were done, two reports were issued back in December of last year. One was done by a four-star fleet commander who went out and looked at every aspect of the environment, the culture, looking for some root causes that we could go after and address. And then we had a more senior level, even than that, issued by the secretary of the navy, to have an independent body go out and look at some of the environmental strategic issues that may have contributed to an atmosphere in the fleet that led to higher stress levels and perhaps understanding if we were structured right or if we had drifted away from some of our core values. And so both of those reports are public. They're out there; you can read them. They're hanging on a web page. So what they found was like most mishaps, and these are both tragic mishaps, and they happened within two months of each other. And I don't think that I could have imagined--we try to imagine a lot of worst-case scenarios out there, but I don't think I could have imagined two cases where we collide with a large tanker, and the collision occurs in a berthing space where young men and women are sleeping. I can imagine collisions. I can imagine being--having ships touch metal-to-metal steel on steel for a variety of different reasons, but I couldn't have imagined that these two types of collision would have been so destructive. So these two happened out at Seventh Fleet, where the tempo is high. Ships are deploying frequently. They're in and they're out. They're going through maintenance cycles, and it's a very contested and congested part of the world. More and more ship traffic out there than we've ever seen. Since my time in the navy, the congestion levels are 400 times as great in areas where we operate every day. So there are significant differences and challenges to how some of us might have thought operations were at sea versus the way it is today. And when you look at both these collisions, they occurred in high density shipping traffic sea-lanes. So one coming out of Japan out of Yokosuka, and one entering in around Singapore Straits, very congested area. That said, we--what we determined in the course of these reviews

at the local area, that is on the ships--communications broke down between those that were responsible for driving the ships, those that were responsible for leading the ships, and those that were responsible for supporting those who were driving the ships. Communication breakdowns like that can set you up for failure. And then a hole-- what we call the Swiss cheese model. A piece of Swiss cheese got a lot of holes in there, but they all have to line up for something to thread the needle and end up in a collision like this. So there are, identified in the reports, any number of actions that could have been taken by any individual along any point along the way, and we wouldn't have had either collision. So a lot of things have to line up for mishaps, accidents of this magnitude, and I think that's what we discovered. So we've taken on a series of recommendations out of both of those reports to tighten up our controls, if you will, about the op-tempo, the frequency out of which ships were deploying out of Seventh Fleet to give the COs more time to make sure they're crews were fully trained and certified to operate. We've taken a heavy turn on how we train our watch teams on the bridge and in combat. And so we're doing more and more of those types of things to really get at root causes.
Schwan: Does any of it--and this is--part of these are my own questions, so you know--does any of that have to do with sequestration or--
Moran: It's easy to blame a lot of things.
Schwan: Yeah, I don't know if--I'm not trying to--but man, you know, we all hear about it, and we wonder if in all branches the men and women we send to protect us are properly trained and ready.
Moran: Yeah. Well, you ought to have a lot of confidence in the young men and women who are out there operating our ships, submarines, aircraft. It's a dangerous business, the sea is unforgiving, and if you make too many consecutive mistakes, you could end up in a really tragic place. I think we have to just make sure that we're giving our teams enough time to train so that they're as ready as they can possibly be. Sequestration, the budgeting process, and all the churn that goes on in Washington can be distractions. They can drive tough choices for leadership about where you invest your money, where you move it around so that you can balance at the end of the year. But at the end of the day, our commanding officers are given the authorities and the responsibility, and they're accountable for keeping their team safe. And so we have to trust in them. We have to give them enough autonomy to be able to make decisions and free them up, give them more time to train where they think they need to train, and that's what we've done over the last year of trying to address that in a more purposeful way.
Schwan: And you are--are you given the amount of time you need to train these men and women?
Moran: We are making sure they have the time they need. And we also want to make it very clear to our commanding officers out there that they have a vote, that if they don't think they're ready, they need—and they are encouraged to tell the chain of command that they need more time. And we're seeing more and more of that because everybody's looked at these two mishaps and said, "What would I have done if I were commanding or I had been a chief on that ship? Would I have spoken up? Would I have asked for more time?" And I think that self-assessment that's going on in the fleet across many levels of leadership is really important to keeping an institution healthy.
Schwan: Does the navy do after-action reports?
Moran: Oh, in great detail. And they're all shared. And in today's technology we've actually built simulations modeled after these two particular mishaps. With almost every one we've built simulations, so young men and women coming up through the training pipeline can actually see and experience what happened so that they can learn those lessons in a virtual environment as opposed to reading it on a piece of paper. That's very helpful.

Schwan: How can you compare thirty-seven years ago the seaman--that's a generic term--as to the material you're working with now in terms of the equipment and the men and women?
Moran: Well, the equipment is far more sophisticated than thirty-seven years ago. We are by far the most advanced naval power on the planet. We've put together highly engineered, highly integrated and structured capability. We need to pace technology that's out there, because it's growing exponentially as we sit here. So you've got to bring in bright young men and women who can handle the complexity and be able to be well trained and be able to operate that complex gear. The good news is we've been able to recruit, and young volunteers that are coming to our service that are eye-wateringly smart. They want to join something that's bigger than themselves. They want to serve. After all this is a volunteer force that brings in the best and brightest. It's often misunderstood that somehow the military is option C for young men and women as a way to get out of a bad situation or they can't afford college or anything else. Actually we have just as many young volunteers who come in because they just want to be part of this team. And I think that's--
Schwan: That's what I recommend--this is an editorial comment--that if you get the chance to go to a graduation at Great Lakes, not only is it extremely impressive, but it makes you feel better.
Moran: Absolutely. Every Friday, with the exception of I think three around the year, we graduate anywhere from 350 to nearly a thousand graduates at Great Lakes. 40,000 a year is what we're up to right now. They come through those gates up just north of the city here, open to the public. You just have to let people--make a phone call up there and ask the base commander if you can come and watch it. It's--it'll make you proud to be an American. It will give you faith in the young men and women who serve our country. They transform over night literally in nine short weeks from being a high school grad to a sailor, and it's pretty--and all the services do this really well. We're particularly proud of what we do up here in Great Lakes, though. The other thing the public can do, especially the Chicago public, is every Friday afternoon, Friday night all those graduates and their families come down here to Navy Pier. They're looking for a good steak, and they're looking for a full meal that they haven't had maybe in a while, and I mean, my son graduated from boot camp in 2007, and we came down here to do just that. And so there's a sea of white that kind of floats out here on Navy Pier, and it's all the graduates. So those are young men and women who just graduated form boot camp and are about to go to the fleet. So if you want to go see what the product looks like, go spend a little time with those young men and women and hear their stories, shake their hand, thank them for volunteering--
Schwan: And they're at Navy Pier every Friday night.
Moran: Every Friday night.
Schwan: I'll expect a lot of dinner invitations for them. Before we get to questions, and I'm sure there are a lot of them, what can you tell us about the Pacific and what's going on in the Pacific as much as you can say and the fake islands they're putting in out there, our adversaries. And that's not political. We don't know what's going on, and that's a vast area.
Moran: Yeah, it is. So on the Pacific in particular, China-- and we all know China is a burgeoning country. They have over 1.3 billion people on a landmass that's the size of the United States. So, imagine our country with a billion more people than we have today populated across the country. It's pretty--it's very urbanized, but it's also got a very large mass of their population that's below the poverty scale, even though they've had some progress over the last ten years of bringing them up. It's a country that's heavy on resources. They need oil, they need food, they need imports as much as they export.

But when you look at the South China Sea, that's kind of their rich area for resourcing--trade, trade routes. And so what they've done, they've been on a campaign here of taking reefs, claiming those reefs as their own, and then building islands to put runways capabilities on those islands. And we believe that that's a way for them to be able to control the South China Sea by establishing military capability that if they needed to they believe that they could shut down others from using the South China Sea. There's some pretty good literature out there if you want to study this a little bit more. Look at the protein intake for the Chinese population that comes from the sea and where that protein has existed for years, where those islands exist today, and where they're gonna have to go in the future to sustain that kind of protein intake. That actually concerns me more than oil and some of the other resources that they're gonna need to sustain that economy. And nations have gone to war over these sorts of conflicts of national interest in the past, and it's our job to make sure that we don't go to war. And so our belief in the navy is that we have to be, what we call, in the neighborhood. We have to have ships operating in the South China Sea to let the Chinese know that we're there and that we're not going anywhere. And our interest is in maintaining international order, freedom of the seas, free trade routes, 'cause a lot of our trade goes through the South China Sea as well. We have allies, treaty allies in the region that we're obligated to be part of protecting their rights and their freedoms. And then we have a whole host of partners down there that are also very interested if--

Schwan: Now, is that part of the SEATO?

Moran: It's, yes, yes. Much like NATO, it's a similar construct. So in order to be there, you have to have, as I said earlier, some quantity of capabilities. So we're--we have a presence in the South China Sea. We're not going away. We don't allow them to make up their own rules. We operate as if we were in international waters because we believe those are international waters. And the Hague has determined that they are international waters, but the Chinese are not paying attention to that, what the international community has said. So that ought to concern us, and therefore we're there. You've got North Korea. We all know about where North Korea is, and that situation is tenuous at best, so we need to be there as well. And then like I said, so many other partners in the region that are kinda looking for a strong signal from the US that we're gonna be there with them and not allow a country the size of China with the economic power that they have to suddenly start to control the region in a way that they don't--that's not in their national interest, so we are a part of that. And then you keep working your way around to India, the Indian Ocean, all the way up in the Arabian Sea, all of these are key trade routes for big parts of the world, large populations where if those large populations suddenly can't survive with their own natural resources, they need the trade routes, they need them open, they need them free, and they need that environment. So they're as concerned as we are about what China's true intentions are, and a lot has been written about what that is.

Schwan: I never heard that brought up. What kind of a navy does India have, and are they active in their area or venue?

Moran: Yeah, they're a growing navy. We are doing a lot of exercises with them to partner with them. There's a lot of great interest in India towards building a relationship with the US Navy or expanding the one we've had for some time. But they--India tries to play a very neutral role, so they talk to the Russians, they talk to the US, they talk to the Chinese. They're in a very interesting place in the global environment when you look at it, so they have--I would say, we're on the upward glideslope here with the relationship with India navy to navy, and that's a really good thing.

Schwan: Yes, it is. Who are we on a downslope with in your opinion?

Moran: Navy to navy, I don't think--I honestly couldn't tell you that we've got a negative trend. Most are reaching out for partnering with us. We have an international sea power symposium every other year in Newport, Rhode Island. This year is mid-September. And every year the number of chiefs of navy that come to that symposium grows. I think we've peaked out about a hundred or so, and we invite the Chinese. We invite the Russians. We invite all naval leaders to have good, rich conversations about how we're gonna operate at sea safely and maintain international rules. So that, I think the interest level just in ISS alone speaks volumes to the growing trajectory on relationships navy to navy.
Schwan: What really has changed in the navy in your thirty-seven years that's the most obvious to you?
Moran: Well, the one that's most personal is, we're a much more diverse navy than we've ever been. What I mean by that is, we have become an organization that truly values different perspectives, people from all over the country, all over the world. We get sailors that come into our navy that are not from the United States that are dying to come into this country and see the navy as a way to become part of our society, part of this free society that they want to be part of. So the diversity in our navy is extraordinary. That's part of going to boot camp is you get to see it and witness it alive, and it's a wonderful thing. And it's everything from color to gender to geography to national. That diversity is widespread, and we need that because we represent the United States. We need to represent the whole of the United States. And when you have that kind of environment where there is some order to that in the military, people really work together seamlessly in a way that builds--'cause there out there to make sure that the team succeeds, whether it's a ship, a squadron, submarine, or whatever, those--that diversity makes us stronger at the end of the day, and I think that's a huge change. For me, when I came in women were not allowed to go into combat roles. Very limited career paths. There's not a single career path that is closed to women today. Long overdue, and it's finally there. In terms of racial diversity we are--we improve every year. We get better in every category. And again these are all volunteers. So it's not like we are forcing people to go into the navy. We've got them standing in line, they want to come in, and that's all good for the health of the service.
Schwan: What naval book would you recommend or book would you recommend?
Moran: I'm a biography guy. I like to read nonfiction. I like to learn--the more I can learn about history, the better, about what extraordinary leaders were faced with and the challenges they faced at the time. What did they learn from that, and how can I learn from what they learned from. So, you name the leader out there, I try to read up on. A book that I'd recommend that I read here recently is a book called *Forged in Crisis*, I think it's the name of the book. It has about a hundred pages each about five different leaders from a variety of different places, and I'll give you a sampling. Lincoln is in there; he's always a great one to read about. But Frederick Douglass is also in there, who is in that same period of time when the nation was really struggling with slavery and the competition of ideas between the North and the South. It's a fantastic read. But there are five other prominent leaders, and they're all leaders in a different way that you can learn an awful lot about. That's a great book. I'm reading two books right now that, one's called *Radical Inclusion*, written by former Chairman of the Joint Chiefs Marty Dempsey, and Ori Brafman I think is his coauthor. And it is about this whole discussion that-- it's a terrific one for the young folks in the room and all of the other folks in the room, frankly, about a different perspective on how to lead. We often think of leading as power and control. And this book tries to take you on a journey of--power actually comes from trying to relinquish control, not trying to control. That's a much different--and as you grow up in this N-JROTC world, I think you'll appreciate a lot of the words that are in there. That's a

terrific book. The other book I'm reading is by Gaddis. It's called *On Grand Strategy*. He's a professor at Yale. He used to teach at the Navy War College many years ago. He's one of the most prominent strategists in the country, and this is a wonderful book that's really based on the class that he's taught at Yale for a number of years, about strategy, how to build it, how to think about it. And so I'm kind of head-down in those two books right now.

Schwan: Okay, we're gonna open it for questions. We have a big crowd.

1: Thank you very much for your service in keeping us safe. My question is about drone technology. The navy have demonstrated perdicts drones, drone swarm technology, and I was wondering what you think first the speed at which the navy will adopt that kind of technology in strategies, and secondarily where you think it might be deployed first, specifically around the Spratly Islands.

Moran: Right. Thanks for the question. We've been operating drones in the navy for years. Not well known; we don't necessarily like to advertise it. But we're developing future capability. For example a drone that is essentially a gas tank or a gas station in the sky. Operates unmanned off our carriers, goes out hundreds of miles, goes into orbit, and waits for our fighters to come in and plug in, fill up their tanks, and move on. So it extends the reach of our air wing significantly. And then it will cycle back to the carrier, orbit overtop of the carrier, and be that gas station for when they return from the mission if they need to get a quick pump of gas to wait to land back on the carrier they can do that. Today that's all done by manned aircraft, and it's an extraordinary inefficient way to operate highly expensive jets. So that capability is under development right now, and we're excited about getting it out there. We have large drones that operate supporting the navy and the Arabian Sea, and we're about to start using them out in the Pacific. I won't tell you where, but it's gonna have coverage that will allow us to have more of a persistent stare on areas around the Pacific that we need to be watching constantly. And then we have drone helicopters that operate today. We've been operating them on the back of our surface ships for a number of years. We continue to expand on that. Miniaturizing drones is kind of the thing that's going on now. We just did a big exercise to look at how we would defend against swarms, but also how to employ them. So that's ongoing. And we're moving as fast as the market moves and even faster in other areas. The sensors you put on them, the range, the battery life. So a lot of the technology that ends up in the commercial market is actually built and designed by engineers in the service.

2: Recently political individuals have said that the way you do this is, you should be so strong--the US should be so strong that no one would dare do anything against us. My question to you is, do you feel that the administration is giving enough support in funding for the navy and other services to reach that point, and as citizens what can we do to help you achieve that amount?

Moran: Yeah, the popular phrase is, we don't want to be in a fair fight. Right? So we send our sons and daughters to fight for this country. The fairness equation needs to lean heavily in our favor. Technology has changed the game in many areas--hypersonics, cyber space. All of those things are moving very quickly. They're not linear; they're exponential, if you follow me. So staying ahead of that requires a lot of engineering, science, resources, and then being able to integrate what we learn into our combat systems and our platforms, whether you're an army soldier in the field or a navy submarine at sea. The last two years, Congress has been very generous with the support of the administration towards funding us at levels we're more comfortable with. But my view is that offering a larger budget without stability in the budget process is the real risk here. So we've got a great understanding with Congress about what FY-19 is gonna look like. But if they don't sign it into law it's a checkbook without money in it. So

that creates some real problems for us. And we've been going through this for the last fifteen years, and most significantly in the last ten years with sequestration and other mechanisms to try to politically balance. So if there's anything that we on the uniform side are looking for, it's stability in budgeting. When you have that, you send a very good signal to industry that they are willing to invest in that stability, whereas that signal has not been consistent over the last ten years, and we struggle with some of our vendors because of that. So the answer to your question is, yes, we have been well supported the last two years, and congress has been very generous with their--with what they've signed into law. But now we're in the last couple months of this fiscal year, and you can see that the appropriations bill is creeping closer and closer to 1 October, and that's where the battle lines are usually drawn, about whether they're gonna approve it or go on what we call a continuing resolution, which allows us to only spend money at the previous year's rate and not allow new investments. So if you're a business owner in the United States and that's how you operated by your board of directors, you would not be very successful. And so that's the piece we struggle with is that consistency, stability, and how we get money. Yes.
3: Admiral, thank you for your service.
Moran: Thank you.
3: I was given my first copy of *Jane's Fighting Ships* when I was five years old. And I've been studying warship design and development ever since. And it seems to me, as a person who loves the navy and a military historian, we may have lost the touch about how to design a sensible warship that fights. We have the LCS, which is an expensive and very damageable and very unreliable ship. We have the Zumwalt, which now cannot fire the projectiles that it was designed for because the navy's decided that they're too expensive. And we have the Ford, which is a thirteen billion-dollar hotel, as in Hotel Yamato, a ship too big and too tied up with national prestige for someone to be committing at battle where it can be lost. What hope can you give us as a person in the development process that the navy, which is now facing really serious peer competition across the Pacific, is going to be developing a fleet of fighting warships that can take on what the Chinese clearly are developing as a direct competitive threat to the United States Navy, as much of a threat as the German Navy was to the British?
Moran: Yeah, well I'll take issue with all three of your premises there.
(Laughter)
Moran: So there's aspects that I do agree with, but you have to understand how we got here for some of those. When you have a development program that takes five--it takes five years to build a submarine today, from the minute you get authorization from Congress to execute, to getting it under contract, to delivering that ship, that boat to the fleet is roughly five years. And we build carriers on five-year centers, so they take a long time. To design those ships, as you probably well understand, is a several-year process. In an environment where technology is moving faster than design, faster than new capabilities can be integrated on that design, and faster than the budgeting process and the ability to get it under contract often allows, those are really challenging pieces. And when you have ten consecutive years of no budget sign, you end up having to make trades in the capabilities on what was designed into those ships in order to deliver the ship, even without the full capability we had hoped for. And that's the nuttiness of the budgeting process that we are dealing with. That said, I got an LCS commanding officer sitting up here. Please talk to him. You probably remember that LCS-1, 2, 3, and 4 were all supposed to be, in our design, test ships where we would put them out to sea, we'd learn, we would operate, we'd make corrections. We we're trying to do it differently to be more agile in our development process. And then when we got those ships out we were under pressure to get them to deploy as opposed to the test part. And so we got behind

on the ability, the capability of those ships because we really weren't allowed--we didn't allow them enough time to mature into what they could be. The reliability and the capability of those ships today is far greater than it was on those first four, and they're getting better every year. We're up-gunning them, is a phrase we use. We're putting new capability on them, and we are now designing a new frigate that will be the follow-on to LCS and start replacing some of the other ships in the navy and helping us grow the navy. Ford, I mean we can go on all day about Ford, about how we got to where we are. I don't believe for a minute that we are not willing to put those ships in harm's way because that's how we're gonna fight. They are the centerpiece of how we're gonna fight. They have been, and there's a lot more that we can't talk about that I wish I could to demonstrate to you why we believe--why we know we can fight with those ships well into the future. Nobody else can put combat power projected ashore as fast and as much volume as the United States Navy. Not even close. We don't want to give up that unfair capability without a very certain understanding of what the pathway is to project power in the future. So until that design of whatever the capability is that can come in and replace that kind of projected power, until that is known we're not gonna give up what we've got. Now what we put on those carriers, how we operate off those carriers, and from what range we operate is gonna change with technology. And we're already seeing that. I talked about the unmanned capability, the long-range strike, on and on and on. Laser high energy, you know, high-energy weapons require deep power, sustainable power, and cooling. You have that in spades on an aircraft carrier. No other platform can produce that kind of power and sustain that kind of power and cool it like a nuclear aircraft carrier. So I mean there are a lot of advantages that you can see that this platform can develop capability to operate off of it well into the future. And we talk about islands. Chinese building islands in the South China Sea. I'll ask you this very simple question. Would you like to be on that island, or would you like to be on a platform that moves at forty knots in any direction that it so chooses at any given time? Where are you more vulnerable? I know where I'd rather be. So I think we have to go through all of that. DDG-1000 was designed two decades ago in a much different world. And we're--your point about the projectile is accurate. It's a very expensive projectile to be able to operate off those ships. So we're looking at different capability, and I think down the road you'll see the wisdom of where we're trying to go in taking full advantage of those three ships. I know I didn't satisfy you, but I love the debate. Thanks for bringing it up.

4: So you mentioned how being a pilot instructor helped you forward yourself in your career in the navy.

Moran: Yeah.

4: Are there any other experiences that helped you, that benefitted you, that you learned from?

Moran: Yeah, it's--when we talk about leader--at the end of the day we want to be the best leaders we can be. The competencies in how to operate the gear that we have is one thing, but learning to be better leaders is character development, but it's also competence. And so studying, going to school, getting educated, learning, reading on your own, reading books on your own, that's all important. But on the leadership side, you're gonna learn perhaps more from those who don't lead well above you than you are from those who do. So when you're--and we've all worked for poor leaders, every one of us. Take lots of notes. Put it in the back of your mind that I don't ever want to lead like that, and here's why, because that'll help you down the road. And then if you're fortunate you're gonna work for a lot of great leaders, and you learn from them as well. But most of my tough lessons were learned by leaders that weren't getting it right. And how you deal with that as a subordinate, how you have the courage to let that leader know that they're not leading well, is a really tough thing. And you're gonna find that out no matter

what business or occupation you take on. But boy, what an opportunity when you're in the service, military service, to have plenty of experiences where you're gonna be challenged by that. So--
(Applause)
Schwan: Thank you, Admiral William Moran, for an outstanding discussion, and to the Chicago Navy Memorial Foundation for partnering on this program. To learn more about the Pritzker Military Museum and Library, visit in person or online at PritzkerMilitary.org. Thank you, and please join us next time for the *Pritzker Military Presents*.
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