

THE BROOKINGS INSTITUTION

FALK AUDITORIUM

US-China proximate military operations in the maritime, air, and space domains

WASHINGTON, D.C.

Wednesday, July 26, 2023

PANEL DISCUSSION:

MODERATOR: MICHAEL E. O'HANLON

Philip H. Knight Chair in Defense and Strategy, Senior Fellow and Director, Strobe Talbott Center for Security, Strategy, and Technology, Brookings

JOSIAH CASE

Research Analyst, Center for Naval Analysis

ROBIN DICKEY

Space Policy and Strategy Analyst, The Aerospace Corporation

RODERICK LEE

Director of Research, China Aerospace Institute, Air University

\* \* \* \* \*

**O'HANLON:** Thanks so much. Good morning, everyone, and welcome to Brookings. I'm Mike O'Hanlon with the Foreign Policy Program and we have assembled a all star cast of experts on U.S.-China military interactions in airspace and sea domains to discuss this important subject with you today. I'll introduce them all briefly in just a moment. Our basic game plan will be to ask each to sort of frame one of the domains of interaction, starting with maritime, and then talking about the air and then finally space. So we'll frame a little bit of what's been going on in terms of close approaches with Chinese and American military and other assets in these theaters and the implications, the concerns, the trend lines. And then we'll get into a discussion of policy options and where this may be headed, where we can perhaps change the trajectory if we're nervous about how things look or maybe accept the inevitability of some of this indefinitely. But in any event, we'll look forward as well to your questions in the final part of the conversation. And so that's going to be the basic game plan. I think you all know how important this subject is. Even in recent weeks, we've seen news reports of Chinese aircraft and ships interfering with the movements of American assets. The Chinese don't like our proximity to their mainland, to their military operations, to areas they consider sort of their sphere of influence. We don't like the implication that there's any kind of restriction on the use of international airspace. And we're all, of course, competing airspace and also sea lanes. And we're all competing over influence in the broader region with the United States and allies watching China's rise and worried about it and what it means for our security interests. So that's the basic framing. To my left is Robin Dickey of the Aerospace Corporation at the Aerospace Corporation. She works in the Center for Space Policy and Strategy, and she has her degrees from Johns Hopkins University, including from just across the street. Although news alert CSIS is no more there. Let's move down towards Capitol Hill. And so she's going to have to either, as she puts it, she never left CSIS, but CSIS has now left her because her world has been centered on this part of Washington for or Baltimore for quite a while. And then to her left is Roderick Lee. He hails from Washington as well. Did his graduate studies at George Washington University, works now for the Center for Naval Analyzes, but also has worked in the U.S. Navy. I'm sorry, I confused my my order. You're welcome. Look, looking over. Okay, Bye bye. Universities so that Roderick is is indeed a former naval analyst and is indeed now at the Air University Washington campus, which is based primarily in Alabama, but has this D.C. affiliate as well. And then finally to his left and trying to clean up my mistakes in my mess. Josiah Case, who hails from the University of Illinois originally but has also studied Mandarin at Tsinghua University in Beijing and did not serve in the Navy, but was telling us a great story in the green room about his experiences sailing around with the Navy. And he will discuss in the opening question what's been going on at sea. That's often been his specialty in his work at CNA, looking at Chinese military operations, Chinese influence operations, and more generally, China's strategy for trying to expand and improve its influence around the world. So without further ado, let's launch in. Again I'm going to ask each panelist essentially in reverse order as as just introduced to frame, where we stand today, beginning with the sea moving to the air and then to space. And so with apologies and without further ado, Josiah, over to you here.

**CASE:** Thanks, Mike. No worries. As you said, my name is Josiah Case. I am a research analyst in the China and Indo-Pacific Security Affairs Division at CNA, which is an independent, nonprofit research and analysis organization that predominantly supports the U.S. DOD. In my seven years at CNA, my research has primarily focused on issues pertaining to PRC perceptions and portrayals of U.S. military operations and activities around the globe. Some of the types of activities that I look at include U.S. Navy freedom of navigation operations, or FONOPs in the South China Sea, as well as transits of the Taiwan Strait. And as I think we'll talk about today, these activities and others by the U.S. and other militaries in the Western Pacific are increasingly being met with unsafe and unprofessional behavior by the PLA. Now, the fact that U.S. and Chinese military ships and aircraft are encountering each other on a more regular basis in itself is not necessarily surprising when we consider the fact that the PLA Navy has made massive steps in the past decade and a half towards becoming a bona fide blue water navy. And so when you think about just the logistics of it, if there are more ships on the water able to operate away from home port for longer periods of time, it's natural that there are going to be more opportunities for encounters with foreign warships. Now, what's concerning, and I think a big part of why we're here, a big part of why we're here today is that on an increasingly regular basis, according to multiple public remarks by DOD officials, these encounters between PLA and U.S. forces are being defined

by unprofessional and unsafe behavior on by the PLA. The recent example that I can cite that was in the news just a month ago was when a U.S. Navy destroyer was sailing through the Taiwan Strait international waters and a PLA destroyer headed it off at 150 yards, risking a collision and violating the rules of safe passage in international waters. There's plenty more that I think we'll touch on today. And so something that I think is also important, another trend that goes with this that that I'm interested in talking about today is that for these encounters, they are being talked about in the public domain on an increasingly regular basis and by both sides. This, I think, really has to do with the battle for the narrative. China has shown itself to be extremely invested in shaping international narratives on issues that pertain to its own image and that of the U.S. And oftentimes the big question is, what are they trying to do here? I think this can sometimes be defending their own actions, trying to justify what they're doing. It can also be undermining the U.S. and trying to portray the U.S. as the predominant source of tensions in the region. I think this is really valuable. I mean, after all, if we think about some of the types of incidents that have sparked wars throughout history, you know, border skirmishes, sometimes just accidents between two different sides forces. These happen on a year to year basis around the globe. Oftentimes, what pushes something from an isolated incident to a major crisis is how governments talk about them both to each other and also to their own people. Now, as I think we talked today, one thing to keep in mind is that the incidents that we've seen over the past few months at sea, these are not and in the air. These are not the first times that the PLA has behaved unprofessionally. There is a precedent for this. And I think as we talk, we'll probably touch on some historic examples and what we're seeing today in a broader historic context. But I think part of why what we're seeing today is so worrying is that these aren't happening in a vacuum. These are happening at a time when the defense relationship between the U.S. and Chinese militaries is in a pretty rough state. We don't have the communication that we would like. And that's something that I think we'll we'll dive into a lot more today. So with that, I'll go and pass it over to Rod.

**O'HANLON:** Which is why let me just quickly follow up with one more thing, though. Thank you. That's an excellent framing, but I wanted to ask you for a little more information or at least a broad qualitative sketch of the trend lines as you see them, as you say, they've been going on these kinds of incidents for some time and they're not unique to U.S. Chinese interaction. What do you see in terms of the frequency, the danger, the unprofessionalism, as you put it? You know, compare where we are today to where we were ten or 20 years ago. You pointed out the Chinese do have more of a blue water navy, so there's naturally going to be some increase. But has it been substantial? And is that an obvious result of a change in Chinese policy, as far as you can tell?

**CASE:** So I think part of the challenge of talking about that is that a lot of encounters go unreported. And that's why I think it's hard to say that there is a clear trend line other than what we've been told by DOD officials who say in public, yes, there is an increase. And that's that's why I really hone in on the the increase in how often these are being discussed publicly. Now, if we look back 20 years to the EP-3 incident, when a Chinese pilot collided with a U.S. EP-3 causing his own death and endangering the lives of the American crew, you know, that type of thing thankfully hasn't happened recently. And the the close approach by the Luyang destroyer for USS Chung-Hoon that we saw last month in the Taiwan Strait, that was not as close of a call as in 2018 with the USS Decatur. So I don't know if it's quite fair to say that the line is just going up in terms of increasingly dangerous, increasingly common. But what I do think some one thing that we can maybe talk about more today is that the PLA is becoming a more professional military. And so. But that doesn't mean that operator error isn't and is entirely gone. Right. So there are questions and I think there's there's there's discussion to be had about why are we seeing this? But again, I would just come back to the trend that we can really point to and really say with certainty is that these are being discussed in the public domain on a more regular basis.

**O'HANLON:** Well, I want to move to Roderick in a second, but I do I thank you because that is helpful and frankly surprising to me to some extent, even though I try to follow this stuff is my job. Because the fact that people have decided to talk about it more doesn't mean that the problems worse. You know, I'd like to see the data. And I've been struck that the Japanese self-defense forces put out a lot of data on what the Chinese do around the Senkaku Islands. And Taiwan puts out a lot of data on what the Chinese do across the median line. But for some reason,

the US government has decided to make a big brouhaha out of something that it's not willing to give data on. So my skepticism is rising and I appreciate your informing me. We'll get to more of that in a minute. But that that's fascinating. And let's see how Roderick, you see things in our domains and what the trend lines as well as the recent encounters have been up in the atmosphere.

**LEE:** Sure. So first, start with trend lines and I'll be the one to talk about history if you're not going to talk about this. So for air encounters especially, this is probably a not probably this is a very historically sensitive topic for the Chinese. This all really starts in the 1950s when actually really into the forties. But the United States, including the United States Air Force, has been conducting intelligence flights off the coast of China since really the 1940s. And it all really comes to a head in the early 1950s where the Chinese managed to successfully shoot down a U.S. reconnaissance aircraft. That was by U.S. claims in international waters, by Chinese claims it hadn't quite exited. But we can sort of have that dispute, but in I believe it is 1952 off the coast of Shanghai. And that sort of marks, in their view, the beginning of what is essentially 70 plus years of constant U.S. surveillance on their coastline, interrupted briefly from the 1970s through the 1990s. If you know anything about broader U.S.-China relations, that's when we have a warming and especially in the 1980s, where we are allies in many ways. But by the 1990s, the United States resumes sensitive reconnaissance operations off the Chinese coast. At least that's the Chinese narrative. And so when we think about the Chinese response, I don't think we should think about it in this vacuum of 21st century in sort of starting with the EP-3, right. We need to think about it all the way back to the 1950s because that's what the Chinese perspective is. And if you look at it from that way in many ways, and I would hate for this to be used as a sound bite by the Chinese, but I'll go ahead and say it. In many ways, the big historical sort of trend line is that things have technically gotten safer, right? We went from the Chinese actively shooting down relatively large numbers of either U.S. reconnaissance flights or, lest we forget, Taiwan was also flying really relatively large numbers of reconnaissance flights over mainland China. In fact, there's a Taiwan Air Force Museum in Taoyuan of one of their reconnaissance squadrons. They have a wonderful museum. And there's this map in this museum. And this map depicts flights that they conducted over mainland China. Some of these flights overfly Beijing. They are running these from the 1950s, 1960s. The last flight they run is they take a U.S. magazine measurement sort of intelligence collection payload loaded into a Taiwan C-130 and dump it out near the Chinese nuclear testing area for detecting nuclear testing and through the. Does the PRC see this as an independent Taiwan action? No. This is all U.S. enabled sensitive reconnaissance operations. So they went from we have to shoot them down to. In many ways, they are able to sort of finesse their response. Now, it is no longer a binary response of the U.S. is engaging in these sensitive reconnaissance operations. The only option we have to stop them or to show our distaste for them is to shoot them down. They are now able, both technically and proficiency wise and doctrinally. They have this sort of fine tuned dial to be able to adjust their response to us sense of reconnaissance operation. So in that sense, I just want to provide that historical framing of don't think about is EP-3 onward. So that's a historical framing we are in fact seeing, or so the Department of Defense says that. We are seeing an increase in unsafe or unprofessional intercepts. There's a just there's a minor difference between the two. I won't belabor the point, but we are saying DOD is saying there's an increase. And I think that as Josiah has sort of already mentioned, that obviously has a lot to do with increasing tensions between the United States and China. Now, the Chinese would argue that U.S. sensitive reconnaissance operations have increased in volume in the recent past. And that's why we're seeing more because the U.S. is sending up more aircraft. The Chinese will have to intercept more of them. And statistically, more things are going to happen in the air. So, admittedly, there is a recent past couple of years increase that could be attributed to a multitude of reasons. Again, it could be an increase in volume. It could be. I would argue there is an indication this is because the Chinese have gotten better in the air domain in responding in this fashion. I want to make it clear that what they're doing, these aren't unsafe intercepts. Whether you want to look at the May RC-135 intercept where there's really good U.S. video of a very close encounter. If you want to talk about the one December also pretty close or if we want to think about a year back we had an instance where I believe an Australian aircraft was intercepted by PLA J-16 I believe it was, and the J-16 dumped chaff, which is essentially metal foil, used to sort of confuse radars in front of the aircraft and that was ingested into the engines causing minor damage. So you can look at a

multitude of different things that have occurred and say, yes, things are getting more unprofessional on the Chinese side. But in most of these cases, I would argue they're almost certainly centrally directed. Now, how the individual pilot or his unit interprets that direction is up for question. But if you look at the way that they talk about this bin of operations, they call it non-war military activities. They re they reissued new doctrine on this in June of 2022. And if you look at the way they talk about how do you conduct air operations to assert airspace sovereignty, you basically identify the target. You send up aircraft to intercept it. Once you've gotten close enough to identify what that aircraft is, what nationality it is, if they are engaging in sensitive reconnaissance operations. The Chinese, the People's Liberation Army says you need to try to push that aircraft out. There are a variety of ways you can do it, whether through close intercepts or use of non-lethal means. See the chaff example. This is all sort of very much in line with the way they talk about doing things. So I don't want us to think about this as simply saying, Oh, this is gray zone operations. The Chinese are trying to pressure us. They have a very discrete playbook in the way that they describe doing this, and they're executing this playbook pretty well, I would say. Now, there are a few instances where there's probably a little over aggressiveness on the pilot side. Guidance is probably being overinterpreted in some cases, but by and large, they are almost certainly be instructed by higher headquarters. The Americans have kept up the sensitive reconnaissance operations shenanigans. We need to stop them or we need to at least demonstrate our displeasure. And it's really easy to do this in the air domain. We don't yes, we have a pretty persistent maritime domain presence, but we have a regular air presence in the Asia Pacific inside first island chain. And so it's very easy to dial your pressure up and down. Do I want to conduct a very close intercept today? Do I want to thump them? That's where you fly in front of the aircraft and make them fly through your wake. You can dial it very easily and message the United States very quickly that way. So that's what's going on. I'll frame it that way.

**O'HANLON:** That's great. But let me follow up with you, too. You say that as a matter of course, if a U.S. flight comes within 15 miles of the Chinese coastline, they're under instructions, the Chinese, to try to interfere with that trajectory. So that that would imply this is happening daily or close to it.

**LEE:** Yeah, I would I would say the instructions are if you think the aircraft is conducting surveillance, like surveillance is really the big sensitive point that they have. Now. I would sort of have an argument with the Chinese and say there are other ways for us to surveil you. It is still legal. Why are you guys being so particularly sensitive or are you just trying to make a big point about this? That aside, the directions do appear to be very specific to is there an intelligence collection effort occurring with that flight? And it doesn't even specify distance, right? It doesn't say if they're in our airspace. That sort of implies their levels of intensity of if you're it's sort of implicit that if they're not inside of 12 nautical miles, i.e. actual territorial airspace, then maybe you should just try to push the. Out or sort of put yourself between the aircraft in Chinese airspace. If they're inside what the Chinese think is their airspace, including nine dash line, then you can be more assertive. But yeah, it certainly is being centrally directed. And I think when we hear from DOD representatives and we hear these airmen or sailors for P-8s talk about their interactions, they seem to reflect that this is a regular occurrence that I believe one of them says. I think it's in one of the when we sent a press crew up in an aircraft, one of them says this is a this is a typical Friday for us to be intercepted and maybe an unsafe encounter occurs once every 20 intercepts, once in every 50. I don't know the actual number, but I'm certain that unsafe or unprofessional intercepts occur on a not infrequent basis. We are just picking and choosing what we want to show. Some of them are going to be more aggressive. Obviously, the intercept that occurred in May versus the one that occurred in December, one of them is, yeah, they look like they're kind of out there, but in the pilot, the U.S. pilot would classify it as unsafe. That's one thing. But if they're literally 50 feet off your wingtip, that's really close. And so I think there are levels and we, we, I don't know what the U.S. rationale is, but we are certainly not seeing the full scope of it.

**O'HANLON:** Thank you. Robin, now over to you and to a domain where this kind of maneuvering and positioning is not quite as feasible, at least not in real time, in an ongoing way. So we'd love to hear your sense of how things have been going on in outer space.

**DICKEY:** Yeah, bear with me, because I might have to drop a little physics on you. It's okay. I'm a policy person. Everything about physics I've learned against my will. So what will make this hopefully, is as painless as possible. But first, I do want to say that when it comes to space, the underlying political and strategic issues are really the same as what you see in the other domains. There are problems with communications. There is a struggle to control the narrative, and there is a lot of discussion on what constitutes unsafe and unprofessional behavior. So we'll dive into that a little bit. But first, I want to talk about three things that make encounters in space a little bit different than in the sea and in the air. So the three things are timing, territory and technology. So first of all, with timing, some basic principles. Space is huge and objects travel really fast in space. So even though space is infinite, the area that we're using really heavily around the Earth is not infinite. And yet we're still talking tens, hundreds of thousands of miles in some cases. And objects are traveling so fast that the International Space Station, for example, is going about five miles per second as it's moving around. So that has a lot of implications. First of all, it means that encounters in space and how you define proximity is a little different than talking about feet, you know, or even a couple hundred yards. It's, you know, in space, a lot of times, if you're having a relatively close pass, that's still tens or hundreds of kilometers or miles away from each other. And that's happening in seconds or less than seconds that two objects might be close to each other, especially in low earth orbit, where all of these different orbits are at really different angles to each other. So you might be crossing like this instead of like this. So when we see that, that means that encounters can happen really quickly, but at the same time, it's really hard. Takes a lot of energy and also time to change the direction or the speed at which you're going. And typical orbital motion is pretty predictable. So this means that even if an encounter itself happens really quickly, you might know that it's going to happen hours, days or weeks in advance. If you can predict the trajectory or you can see because it will take a while if an object is changing its course. So that's the timing piece. Encounters might happen quickly, but you also might know pretty far in advance, which can help to de-escalate sometimes or at least put a little less intensity on the pressure to resolve an issue. But at the same time, we have the question of territory, and the basic deal with space is there is no territory there. The Outer Space Treaty of 1967 says that states cannot claim sovereignty over any part of space. So there are no, you know, 12 nautical mile territorial waters. There's no air defense identification zones in space. It's all open for use and access to all countries, all actors. So you can't pinpoint a specific location in space and have a country say, oh, this is ff limits. So instead, you have to think about the sensitivity of the satellites and the objects in space themselves. And again, the motion of those satellites is constant. Everything's changing relative to each other. But because of the speed everything is traveling at. One of the big aspects of sensitivity when getting approached is that if objects collide, the effects can be catastrophic. Orbital debris traveling at 17,000 miles per hour means that even a paint fleck can basically be a deadly missile. You can see pictures of panels from the windows of space shuttles that have been hit by debris. And this incredible bulletproof glass is like several layers damaged by stuff like that. So really concerning. And debris can cause a lot of issues, which means there's a lot of extra sensitivity on top of questions like surveillance of how close is too close and how dangerous could that approach be? And then finally, we have the question of technology. At any given point in history, there's only been, you know, less than a couple dozen people in space. So that means you're not looking out the window of your satellite to see what's going on. You can't use light signals, sound signals. You can't even do direct radio communications. If you're a satellite operator and you want to talk to another satellite operator, you need their phone number or their email because you might be sitting thousands of miles away from each other on the opposite side of the earth. And so communication and situational awareness are two really big technical challenges. Up until the present, the capabilities to look up at space and have the sensors to see what's going on have been concentrated in a pretty small number of state actors. There are increasing companies and more and more countries that have some ability to do space situational awareness. But it means you either need to have this intense level of technology to know what's going on, or you need to have someone who you trust, who has that technology that you can talk to. And so all of these issues combine to make some unique dynamics when it comes to space. And there haven't been these big, you know, newsworthy encounters between militaries the way that we've seen in the other domains up until present. But if we want to talk about trend lines, the biggest trend line happening in space is the rapidly increasing number of satellites, the rapidly increasing number of actors who are launching and orbiting those satellites.

And that means that encounters we call close approaches conjunctions in the space community. Those can be happening more and more. So we have to look to the future of what this might mean if militaries are involved or if sensitive satellites are involved. So the biggest kind of hint that I'll give of an event that's happened that might be a signal for the future involving China in the U.S. was in December 2021. China made a complaint to the United Nations that two StarLink satellites had made fairly close approaches, close passes of their crewed space station. And of course, that can be really sensitive. That's about as precious of cargo is as you can have on board a station or a satellite. And the Chinese claimed that not only was the pass close enough that this crewed station had to move out of the way, but also that Space X in the US didn't respond when they tried to communicate. But the US said A not only had their sensors not predicted that this was a close enough pass to require some kind of communication or avoidance maneuver. B they never heard and Space X never received any attempts to communicate from China. So it's both a difference of perception of how close was that pass and a challenge of closing the loop when it comes to communication. So that's kind of a representation of some of the potential challenges to come.

**O'HANLON:** That's really fascinating. Do you see any reason in any other data to be concerned that the two sides are trying to routinely sort of play games with each other in space just to sort of test the other's reaction? In other words, you know, manipulating an orbit of one of your own satellites so that over the course of a day or two, it does get close on purpose. Do we have any reason to think either side's doing that as a matter of course? Or is this episode that you just described where even the basic facts of what happened are in dispute? Is that an exception?

**DICKEY:** Yeah, I think that the challenges of basic facts have been more prevalent potentially than I don't have data on those kinds of maneuvers. But some of this stuff can be watched from telescopes on the ground and not even amazing telescopes like amateur telescopes. But that's that's not quite my area of expertise. Instead, what we see, though, is statements by DOD officials that and some background is up until the present safety warnings about those close approaches. Those conjunctions in space have been issued by the Space Command's 18th Space Control Squadron. And so it's a military unit that has been making safety notifications to any satellite operator that might be involved in a close approach. And there's a lot of discussion. The Space Policy Directive three in the US is started the process of maybe transitioning that to a civil instead of a military organization. But up to the present it's been the military. And in congressional testimony from different DOD officials, one thing that they've said is that very often China does not answer the phone when they're just trying to send even a friendly hey, it looks like, you know, you might want to think about getting out of the way. Even if a U.S. satellite isn't involved, they don't get a response in some of these statements. So there's that baseline level of if we can't deconflict the easy cases, how are we going to deconflict the hard cases?

**O'HANLON:** One last follow up for you, please, and I'd like to go with the second round and my second round of question is going to be to sort of assess the overall severity of the problem as you see it. You know, based on all the things we've been discussing, but to sort of distill the data, the trends into sort of a degree of concern on each of your part. But I'm also going to combine that with a question about sort of give your best case as to why the Chinese themselves may be trying to do more of the encounter kind of activity, if that's indeed the case. Maybe it's maybe it's not the case. But but I wanted to, Robin, first ask you about debris causing collisions and explosions in space. And you alluded to that already, but I want to make sure my memory of the recent history is correct. In the first decade of the century, the United States, China and I think Russia all did basically one destructive anti-satellite operation. As I recall the history, at least the U.S. and China both around 2007. For us, it was a satellite we put up that didn't function correctly, and as a safety precaution, we decided to shoot it down instead of just letting it orbit indefinitely. And the fascinating thing for people who have studied missile defense and anti-satellite technology development is that we got it right on the first try using a missile defense system slightly modified to shoot down a satellite one for one. Right. And so for many years, early in my career, at least, we weren't sure if people could develop anti-satellite technology without a dedicated testing program. Turns out if you have a good missile defense system, you've got a low earth orbit, anti-satellite capability as well. And it doesn't just have to be us with all of our experience. The Chinese did it, too. They shot down a satellite on their first try, as I understand it. And I forget if Russia was in that

same exact time period. But I think each of the three has had one low altitude, two or three 400 mile up explosion or intercept of that type. First of all, could you confirm my memory's basically correct. But secondly, have there been any further catastrophic incidents like that where either because of an explosion or because of a collision, we created a lot more debris in low-Earth orbit or have all three of these major powers essentially adopted sort of a moratorium on that kind of activity in their own self-interest of preserving space as a place they can use for commercial and military purposes.

**DICKEY:** Yeah, that's a great question because there's a lot to talk about. So I'll give kind of the full chronology on anti-satellite testing. So anti-satellite testing first occurred in the 1950s. This isn't an entirely new phenomenon. The earliest ideas for anti-satellite weapons were nuclear tipped. So pretty quickly, you know, after the Cuban Missile crisis and some of those early detonation tests of nuclear weapons that proved incredibly destructive to satellites on orbit, that that was kind of rolled back but the Soviet Union conducted a number of orbital anti-satellite tests starting in the 1970s. The U.S. actually did a direct ascent anti-satellite missile test in 1985. They destroyed a satellite, then with a missile launched from an aircraft. And then we get to the 2000s. And there have been four anti-satellite activities since the 2000 that destroyed the satellite. The first was 2007. That was when China conducted their direct ascent anti-satellite missile test. And it was it wasn't 200, 300 or 400. It was closer to eight or 900 feet in altitude. And it was a large enough defunct weather satellite. This was actually the single most space polluting event in the human history of space. It produced 3000 plus long lived pieces of debris. And that's the stuff that we can track. There's smaller stuff that can still be lethal that is also not trackable. So the International Space Station has recently had to dodge debris from this test. You know, 15 plus years after it occurred, that's how long some of the debris lasts. In 2008, the United States destroyed a satellite that was about to reenter that had some very dangerous fuel on board. So by destroying it in orbit, it made sure that that fuel didn't land on Earth in a way that could have been extremely toxic but demonstrated the capability at the same time, India also has conducted a direct ascent missile test. They destroyed one of their satellites in 2019. Like the U.S. test, it was a relatively low orbit, so less long lived debris reentered pretty quickly. But then in 2021, Russia conducted their own anti-satellite missile test. They destroyed a satellite at a similar altitude to the International Space Station, which actually meant that within hours of the test, astronauts and cosmonauts on the International Space Station had to shelter in place because of the debris risk. And that produced about 1500 plus pieces of debris that are trackable. And so actually, there has been a major push led by the U.S., but participated by a number of other countries to address the issue of ASAT testing as one of the most potentially damaging military activities that one can do to the space environment and posing indiscriminate risk to others. So in April of last year, the Vice President announced a US commitment to not conduct destructive, direct ascent, anti-satellite missile tests. Every word of that is important. It's very specific and it's meant to address exactly those behaviors that we've been talking about since then. About 13 countries have made similar unilateral commitments. And there was also a resolution in the United Nations saying the similar text of everyone should refrain from doing these kinds of tests. And about 150 countries voted in favor of this resolution, not voting in favor of this resolution: China and Russia and India actually abstained. But China and Russia voted against and have criticized the proposal as what they say is a U.S. attempt to limit everyone else's behavior because we've already done those tests. They're saying, Oh, since the U.S. doesn't need to do it any more, they're going to try to stop anyone else from catching up. But China has not conducted a direct destructive test like that since 2007. They got dinged pretty hard diplomatically. There was a lot of criticism for how destructive that test was. So tests do not have to be destructive. There's other ways to do it. So China has since then kind of refrained from that debris aspect. Russia hasn't.

**O'HANLON:** Pretty good for somebody who hates physics. Thank you. Let's see if I could now go down the row again, starting with Josiah. And I'd like to again ask, just how worried are you about the domain that you examine the most and discuss today or the others as well if you wish. And and to the extent you are worried, can you help us understand China's motives for what it's up to and maybe what it would take for China to feel reassured enough or confident enough or otherwise, yet have its major worries addressed that it would stop doing what it's doing, or at least not intensify the danger associated with the activity to the extent there is any intensification. So



maybe that's too much of a mouthful, but how bad is the problem? And what's China trying to achieve?

**CASE:** Yeah. No, no, those are all great and very connected questions. Going back, I mean, we do know, according to public statements, public statements from defense officials, there is there is an uptick. It's hard to give specific stats or numbers or a baseline of when this started. But but there is an uptick and in an unsafe and unprofessional behavior by the PLA. And if we think about why is that, I do think that we have to focus on what is it that Beijing is trying to communicate, not just to us in D.C., but also to its neighbors countries and ASEAN, as well as to its own domestic audience? I think sometimes it's easy to forget that Beijing signals a lot to us, but it also really, really is concerned with communicating the right messages to its people. And every time that there's an intercept of an aircraft in the Taiwan Strait or every time that the U.S. conducts a FONOP in the South China Sea and the Chinese media and propaganda machine rolls out and says the Chinese ships expelled the U.S. military from our national territory. That's sending a message to us. But it's also communicating to their own people. Hey, the CCP, the Chinese Communist Party, we've got you. We we care about national sovereignty and we are the ones who are going to make sure that it is not violated. I really like how Rod turned it back, not just to the EP-3 incident, but going further back into the fifties and forties. I'm going to roll it even further back to the 1800s and the start of China's century of national humiliation. We tend to forget about the Opium Wars one, I mean because we're American, but also because to us, you know, that's distant history. Why are we talking about something that happened back when China was an imperial empire? And. But I think when you look at what is communicated to Chinese children growing up in their classes, in their history classes, it is a story of China was exploited and oppressed by these malevolent forces who are still trying to oppress China. And the CCP is the one who was able to put an end to that. And so again, every time there's an intercept, every time that they can point to a FONOP and say we drove that warship out, regardless of whether or not they did, that's that's another reminder to the people that the CCP deserves to be in charge because of what they can provide. The people, even the people who maybe aren't a fan of the CCP. It's a message that goes across the board, and I think that's a really important one. So, you know, they're communicating to their own people, they're communicating to the U.S.. And part of your question that I wanted to touch on was, you know, well, what can the U.S. do? And if someone were to say, well, maybe the U.S. should roll back FONOPs, maybe the U.S. should conduct less of these or not talk so loudly about them in the attempt of sending a signal of we are concerned about where things are and we want to avoid a conflict. We want to avoid an accident. So, you know, here as a as a sign of goodwill, we're going to step back. I think there's a very high risk that that would backfire. I think that we have to think about the signals that that would send to our allies and partners in the region, many of whom are just as concerned, if not more, than we are, of China's attempts to expand its interests at the cost of others and and do so in violation of international law. What message would it send to folks in Manila or Hanoi? It might send a message of the U.S. has said that it's concerned about, you know, freedom of navigation and the South China Sea for for a long time. But it seems like the winds are changing and it seems like maybe we can't count on the U.S. being here anymore. Maybe that's a sign that Beijing is the future and D.C. is the past. So that's that's an important thing that we would want to keep in mind. We also have to remember that it's not just in this area that the U.S. and Beijing have differences. If we were to pull back our operations, our FONOPs, our, you know, what China calls close-in reconnaissance, if we were to to pull these back in an attempt to send goodwill, I do think Beijing would see that as weakness. And I do think that that would bleed over into other arenas, be it cooperation on on climate change or issues over Taiwan or the U.S. military presence in South Korea and Japan. I think China would see. Okay. Our dangerous, very, you know, toeing the line behavior worked. Our hard line stance against the U.S. worked and made the U.S. back down. So that's the danger. You know, even if we were making the decision purely out of an attempt to try and signal we care about this and we don't want there to be any conflict between us, especially in the situation where we're in now with limited communication between both sides. I think that signal would probably not go through the way we want it to.

**O'HANLON:** Thank you. And Roderick. I want to put the same question to you, although you already really largely address both the questions in your opening comments. So let me add

one more which which would be, do you really think that China wants to improve hotlines and communications and reduce tension and reduce danger? It sounds like the tensions, the anxiety, the danger are a matter of deliberate policy and that they feel they can control like a rheostat the amount of danger. And so they actually want it because they want to produce some degree of change in our behavior, some degree of pull back, even though Josiah Josiah has just said why, we probably won't, but they're still hoping maybe we will. And actually, the anxiety is a deliberate instrument of trying to achieve that act.

**LEE:** Yeah. So I so first of all, I think you you sort of alluded to it already, and it's probably pretty clear at this point, I'm not especially concerned about the increase in encounters, close encounters in the air domain between the U.S. and China, whether we want to admit it or not, although the number of unsafe or unprofessional encounters is probably increasing in recent years, the PLA has also become more proficient. I would argue that the 2001 EP-3 incident in April was likely attributed to pilot error. The aircraft that was intercepting the P-3 was a J-8. If you knew anything about aircraft that is a high altitude interceptor, they do not perform particularly well at low air speeds that P-3s normally fly at. That, combined with the limited number of flight hours that pilots received at the time, I think resulted in a an attempt to get the U.S. aircraft to get out of the area and pilot error resulted in a collision. That's what I suspect occurred. That is not the PLA up today. If you compare the way that they talk about air operations and training in 2001, they are talking about how much fuel can I save by towing the fighter out to the take-off position instead of letting it get to that position under its own power with its own engine. And if we do that over the span of the year, how many gallons of jet fuel can I save per brigade or regiment at the time? That is not the PLA of today. By all accounts, the pilot, an average pilot, Air Force pilot today gets somewhere in the neighborhood of 140 flight hours. If you compare that to the United States, I believe the most recent figure for U.S. pilots is around 120. Now we can have arguments about how good is flight hour training is it a good indicator about proficiency. I would argue it's not a terrible indicator of proficiency. So they have better aircraft that are able to sort of perform in that airspeed realm. They have pilots that are more proficient and that will result in them and they're now being directed in a mature way to try to get the U.S. to stop or at least show displeasure to U.S. reconnaissance operations. So I think they're really they're getting really good at dialing that rheostat up and down a little bit as they need. And so if you're able to do it well and you don't inadvertently dump it up five notches instead of just one, then the likelihood of a really major incident occurring is has decreased. Beyond that, I suspect the PLA in sort of the way they talk about crisis management and contingency operations. They appear to be more confident that even if there is an incident, there is a way to sort of manage and message with the United States to de-escalate if it was unintentional or if it was intentional or they believe it was intentional, they believe they have a greater ability to control escalation. So across all of that, I think it indicates that they're probably we're probably going to see more. I am not particularly concerned about it because to Josiah's point, I don't think will ever stop. That is sort of a in intercepts are sort of a byproduct of U.S. policy. And so unless you're going to fundamentally change U.S. policy, get out of the Asia Pacific and stops sending reconnaissance operations against them, which I don't think we'll ever do, the Chinese will never stop. And at this point, they'll probably increase it because they feel more confident that instead of dialing it one more notch notch on the rheostat, they can maybe do it have a notch and sort of be very precise with that. And as long as they feel comfortable doing that in their ability to control the situation, I don't foresee that changing in their sort of willingness to continue to notch it up one more or a half another notch. I think that's very much in line with what we should expect in the future. If we're going to keep doing it. We have to accept that there's going to be an increased risk to to force in order to get the mission done. That's the reality I think we live in today. I, I don't know. I don't think it's an inherent issue in the U.S.-China relationship, though. I think close encounters in the air or even in the maritime domain, even if there's sort of an accident that occurs, my suspicion is that it won't result in this sort of total collapse where where because we don't communicate with each other we suddenly find ourselves in a serious crisis or conflict. I think the reason they are okay and I think they don't want to have increase in an increase in formal communications hotlines, whatever you want to call it. I think they feel pretty comfortable in one, their ability to transmit messages to us through other means and to our ability to do that and receive those messages. I think they're pretty confident that they can get their point across without having to pick up a phone and say, Hey, this is my point, and vice versa. I suspect that they think

the US is very deliberate in our actions. Whether we are or not is a different issue. But I think they think the US is very deliberate in the way that we communicate to them through other ways. This is the non-verbal communication, right? We just want to pick up a phone, say, Hey, what's going on? They see no reason to get on a phone line because they say, I don't need you to tell me what's going on. You are doing all of this stuff. I see exactly what you're trying to do. What you're saying on the phone is probably the least weighted in terms of value. The least important thing I'm considering and trying to understand what your strategic intent is. So I don't think they have any intent to improve formal communications because I think they think it's already really good. They probably think we're really good at communicating through these non-verbal cues. Whether we are not is another issue. I think that's where the danger is. I think we will often sort of wander about and do things. I'll point to the October surprise 2020. The Chinese are convinced we're about to go to war with them. Right? The chairman says. So they are absolutely convinced that we're about to go to war with them. And we're sitting here in D.C. and saying like, what are we doing that is causing the Chinese to think we're about to go kick in the door? I don't think we ever got a good resolution on the US side of how what were we doing? We're just standing there with sort of befuddled and the Chinese are like, You guys are coming, you guys are coming, you guys are coming. That's what my concern is having an and even if we ran into each other again in the air, I think it would result in a crisis. I feel pretty confident we could manage it.

**O'HANLON:** Thank you. Fascinating, Robin. Same questions about how worried are you, what you see happening in space? And to what extent does it reflect deliberate Chinese policy or is it more in the realm of, you know, they haven't decided there's that bad of a problem. They don't really think there is. We're all just sort of getting up in space. There are more numbers of satellites, so we're bound to have more close encounters. But there's not really the potential for an incident to escalate into a major crisis or conflict.

**DICKEY:** Well, a couple angles to that. First, like I said, since there's no robust data set of these encounters in the past that you can watch for exact trend lines, it's hard to tell on that empirical sense, what encounters might be happening and what could be for the future. But absolutely, as activities increase more and more in space, and space becomes incredibly strategically important. It's incredibly societally important. Just think about how GPS provides so much capability in our day to day lives, let alone what militaries and economies are doing. But, you know, if you take it all the way back to the origins of human space activities, a lot of the first satellites were for strategic reconnaissance, meaning satellites help to maintain nuclear stability between the U.S. and the Soviet Union because they would help to prevent surprise with nuclear activities. The flip side of that was because the satellites were helping to do that. There was a lot of diplomacy and communication that if you mess with a nuclear satellite, you are risking that someone interpreting that that is the start of nuclear escalation. And those capabilities haven't gone away in space. It's just that there are now many, many other kinds of uses of satellites. So even the top level of escalation is still possible, but not something that I've seen. No signs of that happening necessarily. But the big thing that I want to raise is that unlike the maritime and the air domains, there really aren't many rules for encounters in space, if any. There's a couple of treaties that lay out really broad principles. You know, please don't have harmful interference with the activities of other countries. What does harmful interference mean? It's not written out and clearly defined. There are some broad terms when it comes to liability and to there are these voluntary guidelines that have been created that are mainly focused on preserving the long term sustainability of space. But when it comes to security activities and encounters, that is an active conversation going on now in which the U.S. and our partners and allies have one lens that we're taking on. And China and Russia mainly have a very different lens that is kind of a struggle back and forth. So right now in the United Nations, there's an open ended working group on preventing threats in space through norms, rules and principles of responsible behavior. And that effort is all about trying to define responsible, irresponsible and threatening behaviors in space. And that's what the U.S., the U.K. and a lot of other of our partners and allies have been focusing on this idea of responsible behaviors. Because the tough thing about space is that you can't necessarily know what's on a satellite. You don't know what the exact capability is. And so it's easier to monitor and verify behaviors. What is that satellite doing? Is it approaching how how are different countries using their capabilities? So that's the focus of the U.S. But China and also Russia have been

focused on the concept of space weapons and of trying to create a treaty. So for the last nearly two decades, they've been proposing a draft treaty called the Prevention of the Placement of Weapons or the Threat or Use of Force in Outer Space or the PPWT, since that's a mouthful. And with the PPWT, they're Russia and China are trying to argue, here's our big ticket item that will solve the problems of space security. Don't be the first to deploy weapons in space. Don't put them up there. The international community does not have a good definition of what space weapons are. And there's a lot of conflicting perceptions on that. So that's already a big challenge with that treaty. Also, that treaty does not include direct descent ASAT missiles because they are not in space there on the ground. And so therefore, the deployment of those systems isn't covered in the treaty. And the U.S. and others have criticized these points at length and for the challenges. But until the norms ever really got off the ground, China and Russia were saying, Well, where's your opportunity? We're here. And so that's that notion of controlling the diplomatic narrative is that Russia and China have been saying, here's our proposal. The U.S. and their friends haven't been you know, they would argue, giving that good faith alternative or engaging with it. But now there's a much more robust alternative and discussion happening. So two very different lenses on what to do for the future of space security. And if they're not reconciled, then we're going to continue to not have things like rules of the road, which you have in air and at sea, even if they're not always followed. At least that's a barometer of how aggressive or hostile intent is. And we don't really have that barometer well-established across the international community in space. So without those norms and governance, it's going to be really hard to measure and track what the concerns are when it comes to encounters.

**O'HANLON:** Thank you. One last question for you, and then we're going to open it up and look forward to audience questions in our remaining 15 minutes. When the Chinese and Russians propose this kind of a treaty on the prevention of deployment of systems, weapons in outer space, either this the sort of so-called rods from God that would be pre-orbited and then could be de-orbited to attack ground targets or lasers that could be used to attack other satellites with the orbiting lasers or some other kind of configuration. When we talk about these sorts of technologies in the hypothetical, because as far as I know, no one's built them yet, do you think the American opposition to the Russian and Chinese proposal is because we don't consider such a treaty verifiable, since you can't really look at payloads unless you're inspecting them before they go up? And that's a pretty tall order. Or do you think it's because in within our broader defense community, we still have enough people who are considering the idea that someday we might want to put rods from God in low-Earth orbit to be able to attack ground targets or might want to put lasers or other weapons in space to use as anti-satellite weapons, that that sort of vision of potential future military options prevents us from wanting to sign a treaty that would prohibit such activity.

**DICKEY:** So the the longstanding U.S. communications on negotiating new treaties is that they need to be equitable, they need to be effectively verifiable, and they need to be in the interest of the United States and effectively verifiable has been a huge point of contention on the PPWT. Going back to that question of what is a space weapon? You talked about some some of the big fancy ideas out there. But more challenging from a policy standpoint is the notion of a satellite that would be capable of grappling with another satellite. So this is a huge dual use technology problem because debris is such a big issue in space, having satellites that can grab onto debris and remove it, that would be a huge benefit. It's a satellite that can grab on to another object in space. Could also have the capability of grabbing onto an active satellite and doing something with it that that satellite did not want done to it. And this has been something that the ODNI World Wide Threat Assessment has mentioned, these kinds of dual use technologies that China is exploring, developing and testing satellites capable of grappling. And although that is not necessarily, again, a weapon in and of itself, how do you have a treaty that says no weapons in space where something is perfectly capable of doing two different activities, one of which is very benign and one of which could be very hostile. And so that is a huge ongoing challenge, and that's why the focus has been on behavior. So you can say, you know, don't approach someone else's satellite without their consent. That might be a possible norm that's being discussed versus not being able to deploy something that could be capable, because ultimately any satellite that is capable of maneuvering is capable of causing harm to another satellite, because, like I said, any collision can be incredibly destructive. And so there's just that baseline dual use technology challenge.

**O'HANLON:** Great. So we got 12 minutes, and I'm going to use a trick that I learned from Fiona Hill once here, which was to take a bunch of questions in one round because we don't have that much time and then just give each panelist a chance to cherry pick one or two that they want to respond to. So that will be our final grand finale, all condensed. So let's see if a few of you have questions and I'll try to get a several of them on the floor all at once. If you have pen and paper or at least a good memory, please latch on to whichever one or two you want to start with, and we'll start with the two gentlemen in the back and then work up towards the front, please.

**AUDIENCE MEMBER:** Thanks very much James Siebens with the Stimson Center. I wanted to ask about the distinction that's being made in the conduct of freedom of navigation operations, between freedom of navigation and innocent passage, and whether innocent passage has ever being claimed by the U.S. Navy. I've seen some kind of casual references to innocent passage, but that would indicate a recognition of territorial waters around some of these South China Sea features. So have you come across anything like that? And then with respect to aerospace, have you seen any variation in compliance with China's declared ADIZ in the East China Sea between U.S. allies, so some allies following China's request for advanced notification and that sort of thing. Others not.

**O'HANLON:** Great. Could you pass the microphone to the gentleman next to.

**AUDIENCE MEMBER:** Sully Hideo, the East Turkestan National Movement and my question is on you briefly touched on to it. I think the United States is failing to treat China's nuclear activity in East Turkistan or what it calls Xinjiang seriously and my question is that given China's history of testing nuclear weapons at East Turkistan and given China's rush to achieve nuclear breakout, why is the U.S. government not actively calling out things like mock U.S. aircraft carriers and nuclear missile silos being built in the Taklamakan and the Gobi Desert?

**O'HANLON:** Thank you. Go to the gentleman here for rows up. Three rows up, please.

**AUDIENCE MEMBER:** Right. Ryan Kelley from the U.S. Coast Guard. I just had a question on whether the narrative is different or changes from a U.S. Coast Guard asset to a naval asset if that is different on those FONOPs missions. And then the second follow on question to that is, is the narrative, at least domestically in China, different with those encounters in other parts of the world, those proximity, say, around the Galapagos or other parts?

**O'HANLON:** I think we might have had two questions over here which might do it. So, yes, please, here in the third row.

**AUDIENCE MEMBER:** With the Russian downing of a U.S. drone on the Black Sea and the lack of a U.S. direct response to it, how do you think China will interpret the permissiveness of anti-U.S. interdiction?

**O'HANLON:** And then I think I saw one more. And. Okay, there's two more. I'll take these last two.

**AUDIENCE MEMBER:** Hi, Teddy Boyd, Air Force Officer question naturally for Roderick and then also my size classmate, Robin. So the Air Force just wrapped up its biggest mobility exercise and the Pacific Mobility Guardian, wondering if you had any initial reactions from the air science and from the space science and whether it conformed with the norms of these cold proximate operations or whether they signaled something different.

**O'HANLON:** And finally, back to row three.

**AUDIENCE MEMBER:** Hello. Thomas Du I'm on the joint Staff, and I had a question about. We're pretty used to interacting with the Russians in our airspace over since the Cold War. And

what you guys see kind of with Chinese projection of power, either shipping or air into our airspace and sea space and what that would might look like.

**O'HANLON:** Great. Thank you. So why don't we go in the same order, starting with Josiah, and just take one or two or at most, three and a couple minutes?

**CASE:** Yeah. And apologies if I miss anything or neglect to touch on any questions that were raised with the innocent passage versus freedom of navigation. I think, yeah, there are distinctions there. And it's important to remember that when the U.S. Navy conducts what it calls freedom of navigation operations, it is at times challenging different claims and different excessive maritime claims. So if we sail within 12 nautical miles of Mischief Reef, which is a low tide elevation that China has built up to be much more than a low tide elevation, if we say within 12 nautical miles of that and conduct drills, a man overboard drill or maneuvers, we are communicating to them and to the world that we do not recognize Mischief Reef as warranting a territorial sea. So we can operate here as we would in the high seas when we enter within China's claimed strait baselines around the Paracels. If we conduct innocent passage through that, we might be challenging their excessive maritime claim that countries need to give pre-entry notification and also request permission. So so there are there are a series of different excessive maritime claims that China and other countries, when we conduct FONOPs in the South China Sea, we are not solely saying China is the bad guy here. We do them in to challenge excessive maritime claims of Vietnam and the Philippines. And and and I think that's important. Kind of touching on what was also asked about, you know, what's the narrative versus FONOPs in the South China Sea versus elsewhere in the world from the U.S.' standpoint, these are all the same thing, trying to accomplish the same thing, which is re, which is to reinstate and stress that the U.S. is committed to freedom of navigation. We're committed to upholding that across the world. We do FONOPs against our allies and that's something that, you know, I think the U.S. maybe, yeah, when it communicates about these FONOPs I think that's a really important thing to stress, is that this is, this is a U.S. commitment to, to upholding the rules based system. We're not, we're not trying to make China out to be a bad guy or we're not just picking on China. These are these are things that we do to our allies as well.

**O'HANLON:** I think we even picked on Costa Rica in a report recently put out about illicit maritime activity, which is an unusual target, but have placed Roderick over to you.

**LEE:** All right. I'll try to do very quick responses to all of that. So ADIZ I'm not aware of major deviations across partners and allies, but obviously civilian aircraft comply with it. So there's that. So but I'm not quite sure because I don't talk too intricately with some of those partners and allies understand that messaging wise. I know this is an air, but actually they do respond differently to Coast Guard. If you sort of look at the way that the Coast Guard transit, the Taiwan Strait was talked about, that was different than a typical U.S. Navy transit, which is also different from the way they talk about air transits for the P-8. So there's sort of this actually it's kind of a template and you can break it out. But they're sort of talked about differently. And it looks like the way they talk about response is also different. In terms of broader response, I don't I don't really see they don't really like to talk about when they sort of do a thing outside of their immediate periphery that's not professional. Like, I don't think they talked about the lasing incident where they lased an Australian aircraft in the Australian heat.

**CASE:** There is discussion in the PRC media, but it's very focused on defending the Chinese action as as warranted. And so in that case I think the argument was that the Australian unit was approaching the Chinese unit and threatening them, essentially, so, but, but yes, it doesn't get maybe as much play right now in the press.

**LEE:** The nuke thing we do complain about the Chinese nuclear breakout. I don't think we complain about it because it's changing. We complain about it because it's a massive nuclear breakout and that's concerning to us. So I think we do. That is a thing that we try to do. I don't think we're going to accomplish anything by having them do that. If they do commence nuclear testing again, even though they're supposed to not do it, then yeah, I think we would also complain again

because nuclear testing is a very destabilizing thing. And if they start doing that, we should be just for we should be a little bit hair on fire. If the Chinese start doing nuclear testing again, that indicates to us something has gone. This is that non-verbal communication thing. If they start new testing, we should be a little bit concerned that something's about to hit the fan. Mobility Guardian, I believe it was. It's actually on my homework list, but I haven't been tracking, so I'll get back to you on that. Last question was about Joint Joint Chiefs. What was it? Sorry. Refresh.

**AUDIENCE MEMBER:** Basically, we're used to interacting with the Russians, protecting our airspace as we see their plans growing what do we foresee for our FONOPs versus their FONOPs.

**LEE:** I would like to think that our interactions with them when they are in our proximity and our need to be professional. So the few times that they wandered up the Aleutians and like 2016, we were professional when they walked around Hawaii were professional. The issue on the air side is that in order to get they do they do these 86 bomber sorties towards Guam, they're never close enough to actually cause a major concern there just to simulate air strikes. I can imagine a world where they start flying bomber patrols up near the Aleutians. It would require some interesting tanking in the Sea of Japan. There are some limitations on their nuclear component, the triad now, but for messaging purposes, I can see it again. I would like to think that we would be professional about it. I don't think they would. They would necessarily be nearly as assertive as they are on their own periphery and as law. I think we probably would respond in kind. The one concern, obviously I'll mention the last 50 seconds, the balloon, I would argue that I'm sure there will be some kerfuffles where that my hypothesis is that this was not explicitly authorized. So I suspect there might be some activities where the Chinese higher leadership thinks there's a thing going on, but it's not particularly clear to them exactly what that entails. It could have been a guy saying, Hey, we had this near-space asset, it's going to overfly U.S. territory. And they're like, But is it in U.S. airspace? Or like, Well, not really. It's an airspace asset. And they're like, okay, go do it. And they didn't bother checking with anyone. And then it flies over CONUS and we have an issue with it. I suspect that will be few and far between. There's the last question about counter UAVs I wasn't quite clear on.

**AUDIENCE MEMBER:** The Russian downing of the drone.

**LEE:** Right.

**AUDIENCE MEMBER:** : On the Black Sea and the lack of direct U.S. response to it and I think China will interpret that.

**LEE:** I, my gut intuition if I were the Chinese, I would, which I probably already think as a Chinese. But my this would reinforce a probable view that there's a difference between a manned aircraft and an unmanned aircraft. And I would argue we would probably agree with that statement. The Chinese probably have better ways of doing things to a UAV. They have lots of counter UAV jammers. Running your aircraft into a UAV is generally not a good idea. And so I think they I don't think I would dismiss the possibility that ratcheting up that rheostat would include temporary jamming or interference dazzling of electro optical sensors on a UAV. I don't think the Chinese will run an aircraft into it deliberately, but then again, I won't. I won't say they never will.

**O'HANLON:** Robin, last word. And again, with thanks to you for helping conceptualize this excellent conversation and really being the driving force in many ways behind it. It's been great teaming up with you on this. So you get the last word.

**DICKEY:** Awesome. Well, I think a lot of the questions were very maritime and air focused. So instead I will say that, yes, when I originally had the idea, I was thinking about the potentials for encounters in space and I just really wanted to hear and do this comparative approach to what's happening in other domains. And I hope everyone can take away from this a sense of, you know, what the differences are, but where there is a lot of continuity in the geopolitics, in the concerns, you know, one thing I like to say is space is different in many ways, but space is not Narnia. You

know, we are a part of this national security conversation, and there's a lot of lessons to be learned and a lot of lessons that I do learn from other domains in order to conceptualize future policy options for space as well. So thank you for for hosting and for jumping when I called you two to see if we could do this. And I really appreciate this discussion.

**O'HANLON:** And thanks to all of you on a hot Washington day for coming out for this important topic. So best to everybody.