

[Transcript] The Realignment / 347 | Driving Battlefield Innovation from Afghanistan & Iraq to Ukraine and Beyond with Pete Newell

Marshall here. Welcome back to The Realignment.

Hey everyone, welcome back to the show and happy Friday, of course.

After last December's episode with Andrews Trace Stevens, The Realignment basically stumbled into a recurring series focused on the Pentagon and defense policy. How it works, how it's broken, and what needs to change to confront current and future threats. I know the audience is divided on probably most if not all aspects of our defense policy, but I've personally benefited from speaking with people in these positions, especially given how opaque the Pentagon can be. Previously, I spoke with Trey, obviously, back in December, then Steve Blank, and of course Christopher C. Miller,

who was the acting defense secretary at the end of the Trump administration. Today's guest though is Pete Newell. Pete was actually mentioned on the episode with Steve that came out at the start of the year. Pete is a retired Army Colonel. Now he is the CEO of an innovation company, an early stage enterprise accelerator called BMNT. Pete has been described as the new John Boyd, just as Boyd transitioned the acquisition process of the DOD with the idea of the Uda Loop in the 1960s and 70s. Pete is working to help the Pentagon learn to adapt and adopt new technologies in the

face of rapid change. He was the former director of the Army's Rapid Equipping Force, where he delivered 170 products in three years. Today, he's focused on bringing what he learned about innovation on the battlefields of Iraq and Afghanistan to the boardroom and the other conflicts and issues facing the DOD along with his other government agencies moving forward. So I hope you all enjoy this episode and I will offer a reminder because it's Friday. You should definitely check out the sub-stack newsletter, which is going out later today. You should check out the bookshop. Pete does not have a book, but there are plenty of other books that fit into the theme we've focused here. And of course, a huge thank you to Lincoln Network for supporting the realignment's work. Hope you enjoy this conversation.

Pete Newell, welcome to the realignment. Awesome. Thanks for the opportunity.

Yeah, it's great to chat with you. A lot of things I want to hit your time at the Army's Rapid Equipping Force. A lot of thoughts on the Pentagon, of course, Hacking for Defense. We had a great episode of Steve Blank earlier in the month, so this is a good follow-up opportunity.

I want to just start by just getting an assessment of your worldview looking forward. I think listeners are tuning in. They're going to be thinking about Ukraine. They're going to be thinking about Asia Pacific and Taiwan. You have Air Force generals stating that we could be in war in the next few years, not commenting on whether or not that's appropriate or not. But just, how are you thinking about the world geopolitics looking into this period?

Wow. In 30 seconds or less, so I don't need a perfect... I just want to just start there, because that's the top of my head. I don't know. It's easy for me. The world's a complicated place. You know, the next conflict is never where we think it is.

The Russia-Ukraine came out of the blue, although Washington happened for a number of years around Iraq war, Afghanistan. A lot of those things literally popped up where we were not necessarily paying attention. But it seems like increasingly minor state versus state issues are becoming more and more complex. Asia Pacific, I would just call it a powder keg.

I don't know that you can put a timeline on it, because I think there's been a low-level conflict in the South China Sea for years, particularly if you watch the Chinese behavior in the

commercial fishing fields. They're continuing encroachment on other nation-states economic exclusion zones or the preponderance of illegal fishing. You can look at the Chinese expansion of the Belt and Roads concept and their land grab for rare earth metals or other assets that they require to continue to grow in China. And frankly, you can look at the Chinese borders and see just conflict after conflict after conflict. So it's really hard to put your finger on it and say, it's going to happen here. Is it really China versus Taiwan? Is it China versus China? Is it more economic issues or is it China versus India? It's really, really complex. I think the one way, I don't know, you prepare yourself for that is to retain the agility to very rapidly go where the conflict is and then react to the changes in the conflict as it happens. I really like your point that the next conflict is rarely where you think it's going to be. This, I think, gets us back into your history in the Army. If you were looking at the Army in 1999, 2000, 2001, on a political level, on a strategic level, I don't think the, actually, I'll just ask you if you had, if I'd come to you in 2000 and said, hey, the next 30 years, you're a career. So just talk about the, talk about how this idea of conflict coming out of nowhere has intersected with your career and the challenges you articulated at the Pentagon. So, I'm going to tell you my story. 9-11, I was the Senior Emergency Actions Officer in the National Military Command Center on the watch team that was on duty on 9-11. And, you know, the NMCC, the watch, you're essentially, you know, responsible for keeping track of everything that happens in the world and you're responsive to the Chairman of Joint Chiefs of Staff and to the President, lots of other people. You know, we, literally, we were in the middle of a global nuclear control exercise, which meant that all of the watch centers around the world were fully staffed and up. All of the National Airborne Command Centers were up. They either propped on airfields on place or flying, but it's rare that all three, you know, three out of the four. And I didn't want to say this, but we had literally just killed off the Pentagon as part of the exercise and handed off control to another officer when the Senior Norah Officer on a watch team was looking at his screen, going, holy cow, somebody just flew an airplane into the World Trade Center. And as most of us looked up and saw it, we looked up in time to see the second one, thinking it was a replay of the first, and he said, uh-uh, this is going to be bad. I, you know, we went from that crisis to the, I think, an airliner exploded flying out of off-key airport less than two weeks later to, uh, you know, invading Afghanistan to the Iraq War. I watched all that unfold from a watch team from the perspective of, of nationally seeing it happen. None of that was something that on 910 was even a remotely part of what was possible. It flashed forward. You know, I just flashed forward a few years and, you know, I took command of an infantry battalion that was actually in the Balkans, uh, in Kosovo in, uh, 2003. And the day we got on a plane to fly home to Germany to where our base was, they handed us the order of this year to deploy into Iraq in six months. And, you know, my experience in Iraq in 2004, 2005, it's just all over the map. None of which we, you know, predicted two years before that. So I guess the big piece that ties your post-motory career to this altogether is, do you think the Pentagon is equipped for a period in our history where the shifts just seem so rapid?

Yes and no. I would say as a, as a deliberate planning effort, the assumption is always you have to plan for something or you plan for nothing. So, so oftentimes people get fixated on the plan and not realizing that the exercise and building the plan and putting the assets in the other

is simply practice for something you haven't thought of yet. So, and we'll talk about this later is, is the building the capacity to rapidly shift and plan and execute is something you have to practice and you have to continue to work. It's not something you, you invent overnight. So the challenge I think the Pentagon has is that it, you know, over the years and starting with, with McNamara shift to efficiency is that we have suddenly valued efficiency and the use of assets and resources over effectiveness over their employment. Now, as soon as we get into conflict, we very quickly decide effective measures are really big deal.

Could you illustrate what efficiency means for a non-military centered person?

You know, when I see efficiency, I mean, it's just like any business out there, it is using the assets you are given the resources to produce, you know, 120% of the effect with 80% of the resources, which means you're always under resource for everything you need to do. So, you become hyper efficient at putting those resources out there so that any divergence from the road and from there is simply considered wasteful.

Effectiveness trades on efficiency and basically says, you know, I'll put the first best fastest thing I can out there and I will trade speed for efficiency and performance. But the fastest thing I can get out there is the best thing I can do and then over time, I'll improve the performance of the thing. Then over time, I will improve the efficiency of what I was doing. Now, quite frankly, you know, was the mantra at the rapid equipment force. Speed first, performance and effectiveness came later.

Yeah, that's a good opportunity for you to explain your time and your role as the director of the Army's rapid equipping force. Yeah, I guess it's a great opportunity to say, you know, that job was an accident for me. I didn't see it coming. I was a brigade commander deployed to Southern Iraq, covering an area the size of the state of South Carolina with, you know, several hundred miles of the Iranian border. And, you know, I had a responsibility of first reducing the flow of illicit people, weapons, money, and from Iran into Baghdad.

You know, when folks say, you know, it's time to plan your next job. And for whatever reason, you know, it wasn't available for all the jobs they offered. The only thing left was the rapid equipping force. You know, I'm certainly not an acquisition officer. I mean, there's nothing about money. There's nothing about the politics of money at DC. Not a scientist, not an engineer. I had been an infantryman for 25 some odd years. The beauty of it was, as an infantryman, particularly somebody coming off the battlefield, I understood the problems that were on the battlefield. Now, REF, the Rapid Equipping Force, was beautifully designed by a guy

named Bruce Jetty, who eventually became the acquisition, senior acquisition official for the Army. And it came about at the beginning of the Afghanistan war, when, you know, at some point, the vice chief of staff of the Army, the number two guy in charge, had on his desk a front page of a newspaper. Some people remember this, and it had this grizzled instrument standing at the entrance of a cave. I think it was up on the Torbora complex. And the vice was, you know, kind of thumping his chest, and look how brave this is. You know, we feel that the greatest army in the world. And then Bruce Jetty, being plain-spoken, looked at him and said, yeah, that's the bravest army, but the dumbest. And, of course, the force general, you know, immediately started spinning. And finally asked him what he meant, and Bruce looked at him and said, you know, we should be calling this cage with robots by now.

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And then they started some back and forth. The vice said, what do you think, I'm an idiot? I've talked to everybody in the Army, everybody I know about robots. And the vice came back and they said, they're telling me it's going to be five years before we can do that. Bruce, being, you know, I think he had a PhD in electrical engineering for MIT. He'd been a tank battalion commander. He was really an odd person for the Army. He looked at the vice and said, that's crap, I can do it in 90 days.

He literally got booted out of the office and told, great, go do it and come back in 90 days. So, so here's this colonel walking in the halls of the Pentagon, no office, no budget, no people. And, and with now the mantra to report off back to a really pissed off force to our general about how he could put robots in the battlefield. Long story short, he did it and actually did it very effectively. He came back and you know, the reward for what he had done is, is the vice chief of staff, the Army gave him \$12 million, a couple of double wide trailers on Fort Belvoir, which is an army post south of Washington, DC, and allowed him to borrow people from the Pentagon

to now start solving problems like this more. When I got there, I think I was the fourth director of the rapid of cooking force. By that time, it was \$120 million a year budget. There were 100 people and 12 double wide trailers, still a temporary organization, very lean, very effective in the places that it was. But you know, the rapid of cooking force was given the mandate of of find issues and very quickly solve them with whatever technology you can put your hand on and report back what the problem was, what you did and see if that's scalable.

And you know, for a long time, they did really well. And then at some point, you know, I followed them, I came out of Iraq with a laundry list of problems and the guy that I replaced, you know, opened this book up all these wonderful things they've done in Iraq. And I looked and I said, you did nothing for me. And first, I never heard of you. So that's a problem. So I had a bit of a chip on my shoulder when I showed up.

And what were some of those problems? What were some of those problems? So actually, this is helpful. So what were the on paper folder problems that they identified and what were the actual problems you were encountering in Iraq? So, you know, at the time, the rapid of cooking force was based out of Baghdad. So they got a lot of the the bad dad sentry problems. It's everything from, you know, small combat output with only a few people unable to observe what's going on around

it. So they built these, you know, CCTV cameras and kits and things that allow just a couple people to monitor a wide area of things. The probably one of the most famous ones, the when they started using IR triggers or thermal triggers to initiate improvised explosive device attacks on vehicles, they came up with this long extension on the front of a Humvee that hung down that had a heat signature on the front of it. So you dropped it and you turned it on. And what that did is it pre detonated an IED so it wouldn't hit the vehicle, it would actually detonate on the trigger. So they did a lot of improvised explosive device work to counter those things as they rapidly change because, you know, the the Iranians and, you know, Akhada and whoever were very good at what will change the type of material or will change the trigger or will change something else. So you're constantly in this battle when we talk about Udallips is they would watch what we would do to react to something and come up with a new trigger.

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So while we were scaling the response to one thing, they were scaling a new thing. And every time it would just be horrific and the number of casualties we took. In my case, in Southern Iraq, you know, I had the swamps and I had the rivers and I had, you know, large urban areas and lots of open deserts. So, you know, in many cases, I was worried about things like, you know, entry control points and borders and patrol and rivers and patrolling the swamps. And I didn't need MRAPs. I needed motorcycles. I needed canoes. I needed what I would say is airfoils. Things that were very different that a heavy armor brigade would never touch. But just given the terrain I was in, if I wanted to be as a mobile of the smugglers, bringing stuff across, I had to have the ability to do that. More so, I had to be able to do the ability to equip the Iraqi security forces with the same things. And they just weren't available to us at the time. Your mention of Uda Loops means I have to get you to kind of explain like who John Boyd was and why just like the John Boyd 1960s, 1970s conversation is really relevant to the work you're doing today. So take it away. So I'll give you the theater men's description of John Boyd. John Boyd was an Air Force Colonel who, you know, started out in the Korean War and then went to Vietnam. Now, the shift in Air Force air combat losses, we went from, I forget what the number was, like 10 wins versus one loss in Korea to near priority in Vietnam. And John Boyd studied the problem, studied the problem and he came back and eventually what John Boyd is most famous for is the description of the Uda Loop. And Uda Loop is simply an acronym for observe, orient, decide, and app. And what John Boyd does is a very good job of describing that very simple term of what it takes to observe what's going on around you and orient on something critical, make a decision what you're going to do about it and act on it and very immediately start that cycle again. And in combat, there are two Uda Loops going, yours and your protagonist. And the question is, can you get inside there, which means can you act so fast that they're constantly observing and orient on something that is useless? When you look at the improvised explosion device battle of how fast people were changing the way they were building things and how fast they were training the triggers versus how quick or not quick we were deploying solutions to that and changing our tactics, we were fairly behind the Uda Loop always. Rarely were we ahead of the Al Qaeda or the Taliban or anybody else in terms of how quickly they were changing things. So when you talk about Uda Loops, it's the comparison of yours versus your protagonist. And the goal is to be able to break a protagonist's loop, which means get inside and turn so fast that they simply can't respond coherently to what you're doing. And a quick follow up there, I'm wondering, and this relates to your writing about Ukraine, is there an inherent advantage that a insurgent, nimbler, smaller resource constrained force is going to have when it comes to the Uda Loop process versus a big one? So obviously, this would be the Iranian National Revolutionary Guard and Al Qaeda in Iraq and then the Taliban in Afghanistan. And of course, the Ukrainians against the Russian military, should we think about it that way? You know, the two I'd say yes, because, you know, a smaller number of more agile organization is not encumbered by the bureaucracy and is not enamored with being efficient. They're enamored with being effective. And this is where the Pentagon gets in trouble. It has to shift from being efficient to effective fairly rapidly. And it's not good at it. So I would say there are two kinds of groups out there. First is if you have no morals, no laws, no ethics, no whatever, then you don't care how

many civilians you kill, you don't care how many your own people kill as long as you're winning and doing something. And there are certain number of organizations out there in the battlefield that are like that. And because they have no moral nor star, there's no ethical background to what they do, they will use anything and everything and consider people more like chattel. Then there is the, I would say, the lighter and fragile force that are back up against the wall that will use whatever can find on the ground to protect itself. I think you can look at what's happening in Ukraine, but you can also back up and look at Aleppo, you know, to what the people who stayed in Aleppo did to protect the neighborhoods. You can look at Fallujah in Iraq, which is, you know, a place that I'm really familiar with. You can look at Grozny, going back years and years into, you know, the Russian First Forbidden, you know, moderate urban combat and how the folks in Grozny actually decimated the Russian forces trying to get into the city. So, I think history is full of places where a lighter, more agile force used the resources that it's had to be very effective against somebody. Now making that permanent is a part of your permanent psyche. When you're not in conflict, it's really hard. And for the most part, the Pentagon has not been good at maintaining that capacity. I think a good story that you also wrote about, I'll link this in the show notes that illustrates the work of the rapid equipment force, but also the bureaucratic difficulties would be the non-vehicle, so like the dismounted IEDs in Afghanistan. I'm in 2010, right? So you're starting in January. There's two to three attacks by November 2010. There's over 900. And what's so interesting about this too, and the way you describe this story, obviously, is that the program \$1.5 billion were centered around vehicles. So it's using IEDs to destroy vehicles. So how do you protect those? That's entirely different from like if you're dismounted infantry walking around on a back road. So talk about this issue and how you and the rapid equipment force kind of like struggled and learned from it. So back in the talk about the MRAPs, the mine resistant ambush protected vehicles. So the MRAP program was an extensive of the battlefield in Iraq where we were trying to be mobile on the highways and roads in Iraq and eventually settled on the South African design for vehicles. And they built the program and they rapidly expanded to build thousands and thousands of things. And it's kind of like World War II asked, we're pretty fast. It happened in a matter of years and they did it. And by all history, we'd look at that and say that's that's rapid and we're good at it and we can do it. Until we went to Afghanistan. And in 2010, 2011 is when the president of the United States acknowledged we're losing the battle in Afghanistan. And he sent 20,000 infantrymen to reinforce it. And we sent 20,000 light infantrymen. And despite the fact the MRAP program was hugely successful, those light infantrymen weren't driving around on the highways. They were walking down donkey paths. And the Taliban and Al Qaeda recognized the opportunity to not have to blow up big vehicles, but they could go after the dismounted infantrymen. So as you acknowledged in the charts, you start seeing, I think the first spike was in the spring of 2010, when the Marines entered Helmand Valley, which was largely a light infantry fight. And you saw the first spike, you know, from one or two of these types of attacks a month, maybe 10. And by the time I got to Afghanistan, in my first visit as the REF director, we were up

around 800. And that very quickly, you know, so already the 900 plus attacks a month against light infantrymen who quite frankly still using the same equipment they've been given in Vietnam. So, you know, over the course of the discussion, and you know, I found a couple of things that really disturbed me. One was that REF had slowly migrated its headquarters to sitting next to the the bigger division headquarters, where they were talking to the generals of people and that's where they were getting that priority from doing things. And no longer were they present at the forward edge of the battlefield where things were changing. So they had slowly over time become less an observer was going on and predicting what the next issue would be, and more just a response mechanism for whatever people told them to do.

And which made them essentially part of the bureaucracy. They were responding to other people's priorities. What I found one around the battlefield talking to, you know, my peers, people that I had grown up in the military with who are now commanding units was the speed of change of the issues they were dealing with was faster than the speed of the paperwork that was reporting stuff up through multiple headquarters to what the priorities were. So I could, you know, literally have a top of three brigade commanders, colonels and commander-large formations, and one

would say, listen, I'm losing people at a rate of 10 and 15 a day. I don't have time to explain what my problems are. I need somebody to look over my shoulder and just hand me stuff to fix them. I'm too busy trying to keep my people alive. I can't figure out what to tell you to build for me. The next guy, a little further outside the city says, you know, listen, the real issue is these IEDs against our dismounted forces, which is the first time I've heard anybody articulate the problem. The third guy was the guy who commanded the Joint Special Operations Task Force who said,

I need you to take all that stuff you did for big vehicles driving down the highways, you know, ground penetrating radar and stuff. And I need you to shrink it down to something that fits on the back of a helicopter. And that really was the first man who said, this is, here's the problem. I need to be able to get the last 100 meters to an objective without losing my special operators who are irreplaceable. And it needs to be done by a robot, but it needs to be, you know, equipped with the right things to actually clear that path to the front door of a building.

None of that appeared in a priority list anywhere in any of the headquarters that I taught them.

And when I challenged people on it, they said, you know, who do you think you are?

I have this list from the four-star, I have this list from the 30-star, I have this list from the two-star. But those lists were being staffed for months and months and months and months. And people were more than programmatic money versus saying, you know what, let's just go find something to answer these problems. So first, I faulted REF for not being present at the forward edge of the battlefield where they would see that problem arising and describe it so people could react to it faster. And second, like, you know, I faulted the process for being too slow. And when you look at it, it took us nine months to a year to recognize that new problem, the shift from a tax on a vehicle to a shift on air crewmen. It took us nine months to provide a solution to the battle. And then probably another nine months after that, they actually got it scaled. Well, that's 18 months. When you looked at what the Taliban were doing, they were on a four-month cycle. So there'd be a spike. We'd responded to it. And then they would back off. As they observed what we were scaling, they would change the trigger, change the mechanism,

change something else. And then they would double it. So their Uta loop was turning in about a four-month cycle. And we were turning in a 15-month cycle. The gap between the two costs us almost 5,000 casualties. Now, if you look at Ukraine, that's almost the exact same thing that's going on between the Ukrainians and the Russians. The Russians are too slow. They're not reacting fast enough. And the Ukrainians are spending on a dime. I think the question then would, as you're describing the approach that the insurgents are taking during the wars of the 2000s and the 2010s, how does this dynamic and problem we were identifying, aka just too long of a process and feedback and everything, how does that apply to a more of a great power-centric competition scenario? So you look at, you know, I started this narrative a long time ago, and actually I was still a rep. And it basically said the way the technology is proliferating now, it means that just about anybody with cash and intent can build a lethal response to something that can hurt just about anybody, badly, wherever and whenever they want. They may not be able to sustain it, but they can have an impact that, you know, that the tonically changes the way people look at the world. Look at the Boston Marathon bomber. The two guys who knew nothing about anything managed to build a pressure bomb. And look what it costs the city of Boston and the impact nationally on our moral and how we felt about the world. That's just two guys. The way technology works today is that trying to keep up with not just the adoption of technology and the adoption of that adoption is moving at a speed that's almost impossible to keep up with. So if you've not built the mechanisms that you need to observe where technology is going and understand it, which means you have to actually dabble in it, and then understand that once it hits the battlefield and the battlefield that could be an economic battlefield, it could be a military battlefield, it's going to change and it's going to change rapidly. If you don't have the systems and the people built to recognize that change and either take advantage of it or build a counter to it, you are eventually going to get, fall far behind somebody else in that other loop. And I think that's, you know, you're seeing it happen in Ukraine versus Russians, but, you know, for many cases, you know, the Chinese used that against us for a long time. And in many cases, we've fallen behind the Chinese on a lot of things that we should not have. As I discussed at the start of the episode, you know, you began your military career in the 1980s, you were an infantryman, you're covering this, you know, 32 year period that takes you from the Cold War to the quote unquote peace from 1990s, then to the war on terror. If you were starting your career today, would you still choose the same branch? Would you still choose the same MOS? Because obviously a Cold War that's centered around what happens in Germany, that's obviously going to be one where the army, infantry, armor, et cetera, et cetera, are going to be particularly prominent. If we're talking about an Asian powder keg, you know, there's a reason why the Marine Corps has dumped their tanks. That's a branch that's re-envisioning itself. So I'm just curious what, you know, 18 to 24 year old Pete would do in today's context. That's absolutely unpredictable. I asked the question. I think the answer is yes, I would probably do the same thing, but I think that battlefield has changed so much. The best way to describe it is, you know, many of my peers, our children have followed us into the military. My oldest son did. My oldest son, you know, graduated from Virginia Tech in 2013, became an instrument, did his first tour in Korea, went to a striker unit in Colorado,

and they changed branches to be a military intelligence officer. And he did a tour in Iraq and Syria, came back, was a company commander for food. But he saw these changes so fast. So his, his tour, I think it was 2015, they're not only his tour in Iraq ended, but it was at least 10 to 15, 10 years after mine. It was so dynamically different. And, and when he got out, he went to work for an AI company. Now he's building solutions that the Navy is putting to use with the unmanned task force for, you know, some wildly different things. So I watched his pattern of development over time versus mine. And, and I would say that there, there needs to be, as we're recruiting, what I would say, a class of entrepreneurs, people with entrepreneurial backgrounds and spirit in virtually every MOA or classification of military. So I think it's less about the branch than about the collection of people who understand the concept of mission acceleration. How do I quickly identify problems that are emerging, using a lot of tools to quickly understand those, those problems and the potential off the shelf solutions, whether they come from the military, they come from the commercial world, and how they can be banded together and applied to help us better understand the problem. And then how do we very rapidly build operating concepts around that technology and the problem and very quickly solve it or continue to solve it over time? I think that's, it's a skill set that is not incubated and kept inside the military. And, you know, the best example, I can look at is I'm a class act. I never belonged in the ref. I never would have imagined it. I would never have signed up to be the director of rapid equipment force. But I was like, is that, is that, is that a combination of your personal interest and like possible career advancement? Like, how do you battle field commander? Yeah, I, you know, I'm the warrior. I'm a warrior. I command large groups of people and went over and fight the battles. Yeah. And, you know, my trajectory as a paratrooper to, you know, a young captain on the range of regiment, my time as a battlefield commander is as a battalion commander and as a brigade commander, I was destined to be a general doing the same thing. And then somebody slapped me into the rapid equipment force. Then I realized that I was gifted at doing what I was doing there. And there was no job description for it. So, at some point in the army said, Hey, you know, you did a great job there, we're going to send you someplace else. I said, No. And when they said, No, we really mean it, I said, Yes, all right. Yeah. And I basically realized that I was addicted to what I was doing at rough. And, and that's what brought about my retirement because I realized the army would never let me continue to do the job. But that's the job that I wanted for my life. Most of the people like me, whether it's the Defense Innovation Unit, the AfroX, Naval X Army Applications Lab, even the people at REF, all of them are gone. You realize that, that there's no former director of the Defense Unit, Innovation Unit still in service. Same for AfroX, same for Naval X, same for the REF. We all left service at the end of the jobs because there was no place left for us to go. So, so I come back to your original question, what I do the same thing. The answer was yes, but I think the, you know, my experience in the range of regiment, both at the time and with them later on, was probably the epitome of the future because you're constantly driving from a new solution to things. You didn't let the system get on the way of what you were learning. And the very rapid application of new ideas to get around a problem. And I think that that's more the class of people when using the military in the future than we've actually had in the past.

The challenge with the military is that they're going to have to learn first how to provide those experiences so you can identify the innovators in the entrepreneurs. And second, they're going to have to create a doctrine around that. There's no doctrine for being an entrepreneur in the military. The idea of mission acceleration that I described at REF is not imbued in any doctrine anywhere else. Therefore, it's not funded, it's not resource. There's no military professional role. Can you explain the role of doctrine in the military? But why is doctrine important? Yeah. So doctrine drives, I'll start with culture. Anywhere in the world, culture is based on a common language and common beliefs. And language and those beliefs actually generate organization

to society and help people react to one another, drives trade and everything else. In the military, you trade out culture for doctrine, doctrine is the same thing. It sets up how we fight, how we're organized, how we're organized drives, how we're manned and equipped and how people have voted in what we do. So we have doctrine for military intelligence, for fires, for mission command, for all those things the military has to do. We have no doctrine for acceleration, for accelerating our understanding of problems. We have no doctrine for the acceleration of concept development and application on the battlefield. Those are things we just do as a response to a problem, not with a deliberate effort saying, we know there's a way we're going to have to fight forever. So there's no doctrine that connects the output of what innovation does to warfighting. Now, Steve Black and I in Steve's period, I'm talking back and forth, that described that as mission acceleration. So if you look at all the warfighting functions out there, there is not a warfighting function called mission acceleration. If it weren't doctrine, then you'd be able to look at it and say, these are the resources we're applying to build a class of people who can do this. Here's the language they're going to use to describe what all of these innovation hubs out there are doing and why they have budgets and what they're supposed to do and what they bring to the force. Without that doctrine, we're going to spend a couple of billion dollars a year spread across 100 different innovation platforms and get maybe 10% of the output that we should be getting. And we're going to continue to lose the people because they're not going to stay in service. You know, something I'm curious about, especially given the fact that there's a more of a decent percentage of this audience that is coming from the Silicon Valley tech space. What have you learned from just like your stint in Palo Alto? You're going from what is arguably the most hierarchical organization slash institution in American life to, and obviously, there are hierarchical startups, but once again, the culture, the mythos, the narrative that's driving one's head is not hierarchical in that same sense. So is there a way to, I guess this is kind of a way of, you could be a cliché and say there's the West Coast Instinct in America, there's the East Coast Instinct, is there a way to merge these two instincts in a way that's productive and helpful so that folks from DoD could go into the technical space and take the lessons to your point and then people who are in the startup world who never would have been successful as enlisted, you know, enlisted soldiers, airmen, sailors, marines, and definitely never would have commissioned like out of college. And maybe they're in their 30s and 40s, like how can this maybe be merged together? That's something I'm always driven by. So I think that was one of my epiphanies as a ref director. And what I say was the most professional and rewarding assignment I ever had is, it's the first time I had a job in a military where there was nobody between me and anybody. I essentially work for the right Chief of Staff in the Army who didn't give me a whole

lot of tasks. He basically said, you know, your job is not to come in here and blow sunshine at me and tell me how good you're doing. Your job is to come in here and tell me what's broken in the Army so I can fix it. And I will never forget, I was sitting down with, you know, two three-star Army generals having a discussion about something and one of them was yelling at me. And it went on

for quite some time before he kind of calmed down and he said, you know, ultimately, you make me nervous. And he said, but then again, that's your job. My job was to make people nervous. My job was

to find things are broken and point them out to people. It is the first time I think in my career, other than being in combat, that I was allowed to use everything I had ever learned, every network I had ever built and everything I could pull together to actually affect the change. And nobody got in my way. I didn't have to say, may I, I didn't have to say, please, I didn't have to ask for anything. That's the epitome of being an astronaut. It's simply to pick everything you have at your, in your personality, in your being and put it against doing something and make that happen. It's not for everybody. In fact, it's not healthy. It's not, you have to be half crazy to do it. And so I think I want to go back to this idea of adopting a culture of the type of thing we need to build is we need to build these, what we have coined innovation navigators, the people who have this entrepreneurial mindset that were embedded in government organizations so that there is at least a receptor that talks to and understands the rest of the world.

Yeah. So go back to what I learned from Silicon Valley. You know, my first lesson, you know, I was a ref director and I was sitting at Google talking to a bunch of engineers about an energy problem. And, and we had a great conversation and it was like, we did one-to-one agreed on what the potential solution was and it turned out that Google was working that direction. So I asked guy, how much can I pay you to actually help me solve my problem? And he laughed at me. And on a dry erase board, he draws this big circle. And in the middle of that circle, he puts a little pinprick. And he says, that big circle, that's me in my budget, that print in the middle, that's you. He said, I don't need your money. And he said, what I needed from you was a better example or a better explanation of the problem I was trying to solve. What I, and they said, thank you. He had left. It was like, I never painful. What I realized is that my money in the Valley didn't matter. What mattered was I had the best sexiest explanation of a problem that people needed. And when I could describe one of my problems in a manner that made sense to somebody in a commercial world, I had a lot of power and I had a lot of influence. The challenge between, you know,

the Pentagon and Silicon Valley is not one of, one doesn't like the other is, they have two different business models. And the Pentagon has a hard time understanding Silicon Valley's business model and adapting to it. They just assume Silicon Valley and the commercial world is going to adapt to theirs. And the answer is not any more. With a lot of this technology, the government is not the first, best, most dominant user and nor will they ever be. And they're now having to learn how to buy things and use things that are predominantly being built in the commercial world. They're trying to do that with people who are trained, equipped, and organized

to do something completely different, like back to the document thing over and over and over again. They're not building a cadre of entrepreneurs, nor are they building programs for rapidly

developing operating concepts and doing dotlityup, which is the the doctrine, maintenance, organization, training, all that stuff you have to do when you field something. You know, that typically takes years to figure out. We need to be able to do that in six months. And we need to do that for things we're only going to feel for three to five years before they change so much that we have something to do. The the Pentagon largely still thinks that's an aberration to reality. And they're unwilling to realize that, you know, 10% of the budget probably ought to go doing that stuff instead of the 0.001% that's going at it today. I guess what I'm kind of wondering, when you refer to the, and I think this is something that's helpful for civilians such as myself who are conducting the conversation, but also listening, is you just referred to the Pentagon as if the Pentagon is this singular, the singular thing. But the Pentagon obviously is an organization and organizations are composed of people. So at this point in the game, the Pentagon is led by folks who came up during the wars in Iraq and Afghanistan. So these are folks who I think, from my perspective, would have seen how, A, the process you just described is so essential, they would have seen and viscerally experienced the need for this entrepreneurial, aggressive approach. So why does that happen organizationally, right? Like, why are we telling, there's a version of this podcast that were the format that we could have done in 1999, and you may have offered the same critique. Why would the experiences in Iraq and Afghanistan not been enough to change that broad critique? Because, you know, at the end of the day, the processes and the design of the planning, programming, budgeting and execution, the PPBE process that's been in place for 60 years, which drives, quite frankly, the defense industrial market is largely designed on building big, long programs that deliver complex things that take years to build, but over time, return, shareholder dollars to people with it. It's just, it's an enormous undertaking to change the line on things. I think despite the fact that, you know, a lot of us have very different experiences in Iraq and Afghanistan, military assignments with Pentagon are also short. I'm only there for a couple of years before people rotate out. And I think that's one of the frustrations people in Silicon Valley have. You know, when an investor stands up for fun, they're with that fund for at least 10 years. It's not longer. And I laugh when people in the military say, well, we're defense ventures or we're army ventures or we're something else. I say, listen, you're going to be in your job for two years and you're going to go do something else. You will never be held accountable for the results of what you were doing. Somebody else is going to be. Which means there's little consistency of change other than what we've blueprinted before, because everybody comes in and says, I want to change something. By the time they figure out what they're supposed to change and actually start to make the change, they're headed for a new job. And then the next person comes in and starts all over again. So from a change standpoint, there's no consistency to it over time. So it takes forever to actually see that change happen. That said, the civilian force that also manages the system had been there for years. And in many cases, the tuning of compliance and everything else has taken over. It's like, you know, this is the last time you heard somebody on the Pentagon or on the government say, listen, I just want you to be barely compliant versus this idea of perfect compliance to everything. We're going to follow the rules with T and we're going to reward people to follow the rules to T and never changing anything. And if you fail at something, then that's bad,

and we're going to throw you out. Silicon Valley says we're going to celebrate the rule breakers and the folks who fail, because they're the ones that are learning the fastest and they're actually doing something. So you have this culture change between the two. It's appeared on this really hard to break. I think that's why oftentimes we're, you know, we had the same problem when we thought jointness back, you know, after Grenada and went through the Packard Commission and lots of congressional studies that eventually went to the Goldwater-Nickels Act that forced the military to become more joint. Now, we're probably at the same point where the Pentagon is not going to change itself. It's going to take congressional action to force something different to happen. Now, what if we had a third undersecretary? You know, we have ANS and we have RNA. We have the sustainment folks and we have the rapid engine, but research and engineering folks. What if we had a third undersecretary whose job it was to collect all these innovation things and their job was to essentially do what a ref did, but do it at scale? Wouldn't that be amazing? Because suddenly we'd have a doctrine. We'd have different rules for different people. We'd have the ability to rapidly harness the innovation ecosystem in a commercial world to deliver capabilities at speed and scale for the next conflict, regardless of where the conflict is. I'm curious, you know, we're nearing the end here. Do you have a theory of change when it comes to something like that? So, for example, it's easy to say, oh, well, Congress is Congress and Congress is never going to do that. But once again, Goldwater-Nickels is a, you know, that's Congress doing something. There was obviously a set of problems and circumstances that created a vacuum. This photo for response that doesn't do my perspective. Things are addressed when there's a vacuum to be filled and there's incentive to fill that vacuum. The question for me is, does that vacuum get filled after a conflict? Right? So are you prepping for MRAPs in O3, or are you doing it in O6 after thousands of people have been maimed and killed? So it's not a question of if it's a question of when. What would your theory of change be if you're articulating these potential reforms? I think shifting the narrative to, you know, pick on the Chinese, the inflection point. When the Chinese capabilities outpace the US, it would be very difficult for us to catch up. So while they've not surpassed us yet, if they are increasing the speed and efficiency of which they're able to develop new things and put them on the battlefield, wherever the battlefield is, when that actually crosses our capabilities, it would be really hard for us to go from an incremental one or two percent change a year to 15 percent to catch up. So if we don't start, the chances of us being surpassed by a pure competitor are much greater. How do you assess? I'm curious how the the war in Ukraine shifts your perspective on competition and just the general question of like who's surpassing who? I mean, think of if it's 2017, I'd be saying, look at the T-14 Russian tank. It's incredible. It's so advanced. We're using M1 Abrams from the Cold War. And then the T-14 isn't even used in the war in Ukraine because it's probably in this meal for stadium expertise here. But there's a likely case to be made that it's kind of like a white elephant that isn't actually usable in the battlefield. You could say the same thing for the SU-57 jet. So when it comes to you assessing Chinese capabilities, how do we separate the narrative of, wow, it's a carrier-killer missile from the question of, okay, but if there actually were a conflict, is this actually a threat that would determine our actions? Yeah, I think I come back to pinpointing the actual threat

versus the ability to identify a threat and rapidly reaction to it is the difference. Hypersonics and AI are a threat. Understanding how that threat will actually manifest itself is like looking at a crystal ball. The question is whether you recognize it when it starts and can you very rapidly reorient to it? And giving you an example, you know, switchblade is an unmanned aerial system that actually blows up when it hits things. When did you put that on the battlefield in Afghanistan? I think in 2012. Switchblade was a precursor to the drone war you're seeing now, where it wasn't just drones that are flying around looking at things as drones are being flown quite effectively in a battle. You know, they look at Ukraine sometimes and say, really, the battle is wrong. Tanks on the battlefield, it'll be interesting to see what happens when the Loper 2s and M1s make it into the Ukraine versus a different, a much different environment. And I say that as somebody who's probably one of the few battlefield commanders who's actually fought a mounted urban battle in modern history, like the Tuvalus in Fallujah in 2004, where I commanded a heavy task force with tanks and battalions inside the city. This is very different. And I will say it was difficult then. It's going to get much harder now. That's coupled with this concept of open source intelligence. It's hard to hide from anything. The good news, you can see everything, but now it's hard to hide from anything. So it really does become the speed of the outlook. Can I move faster than a decision? So I, and that's not just a, I don't say that to avoid your question. I think the, again, it is going to come down to the speed of our ability to recognize something has changed dramatically in the conflict, whether it's on the battlefield or whether it's economic or something else, the speed of our ability to articulate that in a manner that people can understand, the speed of our ability to rapidly assemble groups of people, think the Manhattan Project, how fast that came together, and then how fast we can actually produce a first, best, most adequate solution and put it back out into the conflict to determine whether or not we even understood the problem to begin with, and to determine the, I call it the halfway for the problem, how fast will the tech and the concept change to the point where what we were producing is now obsolete and we need to move on to something else. That's, that's the missing link is to do that intentionally. And to tie everything together, that's the key to the dismantled IED story in Afghanistan, because the key there is you're identifying that we thought the problem were vehicle-centric IEDs. Actually, the actual problem is that they're affecting dismantled inventory. So the speed at which we can identify, address, and then deal with that problem is a good way to think about this. So just to, just to close, Pete, this has been, this has been very helpful, especially looking from the outside, more from the tech side of things, is just to close, like what would you suggest interested younger folks should look into? So like 30-somethings, probably specifically in either like Pentagon, military, tech, or interested in this topic area. So I think in terms of reading, I will tell you that not to stand on a bullet book about the material that Steve Blank, Steve Spear, who's a professor out of MIT and I are writing, we're writing politically on the subject as we're trying to think through it. But, you know, obviously, I would dig a little bit further past there. And, and watch, you have to get past the rhetoric and actually watch the lessons that are learned being learned in the Ukraine-Russia war without picking sides, but try and put yourself in the place of both. And understand what decisions you might make or, or how you might look at the same place.

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I think the getting involved, if you really want to get experience, and, you know, we didn't talk about hacking for defense, but, you know, the common mission project was the nonprofit we spun out years ago has built this beautiful program of a, you know, graduate and undergraduate level, of course, universities that allow students to take on real emerging problems, whether it's a military diplomacy climate or something like that, and build teams as if the entrepreneur is trying to solve a problem and do something. The students are one thing, but actually mentoring and advising those students through the process or warning what it's like to be an entrepreneur and actually try and discover this process. It's been amazing for everybody who's ever touched it. So, you know, it's one of those things that if, you know, your alma mater offers the course where your close to university does that, I think get involved, get back into the classroom where the students are, and they're doing this really great work and gain some experience rolling.

Well said. Pete, thank you for joining me on The Realignment and folks who've enjoyed this conversation, I suggest you check back and listen to the episode of Steve Blank if you have not done so already. Awesome, thank you. Hope you enjoyed this episode. If you learned something like the sort of mission or want to access our subscriber exclusive Q&A, bonus episodes and more, go to realignment.supercast.com and subscribe to our \$5 a month, \$50 a year, or \$500 for a lifetime membership, greats. See you all later.