

BOB: So, if you look 10 years ahead and again, thinking future back, we're all cyborgs. We're, we're all cyborgs. I mean, that's, that's the inevitable path we're on now. We're all cyborgs a decade from now. So, we're all augmented in some way. So, the question is how are we augmented?

CHRIS: Welcome to *No Turning Back*, a podcast hosted by Stan McChrystal, and myself, Chris Fussell. Our goal here is simple: to have serious conversations with serious leaders, so we can learn from the best, and navigate these complex times together. Thanks for joining us.

ANNA: Welcome to the Future Focused series of *No Turning Back*. As we end 2021 and take the step into 2022, we will be having future-focused conversations: largely talking about the future of work, but also the human-AI experience, technological innovation in the military, drafting out and discussing what our world will look like in the years to come.

Our podcast, after all, is called *No Turning Back*, and this series takes a distinct look forward at what lies on the horizon. We're really excited to embark on this series with you.

Bob Johansen, this week's guest, kicks off the mini-series. Bob is a self-proclaimed "futurist," who looks at life backwards, placing his focus 10 years ahead as he makes predictions about the life waiting for him. Bob is a distinguished fellow with the Institute for the Future, where he helps organizations get ready for, and influence, the future. He has been doing this work for 30 years, while also authoring or co-authoring a massive 12 books on the subject.

In today's discussions, Bob explains that all humans will be cyborgs in 10 years, why he dislikes the term "artificial intelligence," and why good leaders must be digital leaders. He shared one of the more interesting and important questions in the future is: what can humans do best? And what can computers do best? He challenges us to focus on the hopeful potentials of both the human and the machine.

We promise that this episode makes you think - we believe it's the perfect way to kick off the series. We hope you enjoy it. Thanks to Bob for making the time. Now, over to Stan.

STAN: Great, Bob, Thanks for coming on. We'd been really interested and excited to have you on. You know, everybody gets called something or described a certain way. They describe Chris as a brilliant, athletic, former Navy SEAL. They described me as an idiot. They describe you as a futurist.

Now, of all those names, that's the one I think most of us really need to understand. So, what's a futurist, and what is backcasting?

BOB: So, the essence of being a futurist is you look at life backwards. So instead of thinking present forward, we think future back. And I try to focus my life 10 years ahead and essentially look back. Back casting is one way to think about that, but I like to use the term future-back cause it's directionally, that's just the way I think. I try to imagine myself every day, 10 years

from now. So, I've focused there and I'm not recommending this to everybody, but it's a, it's kind of a weird psychology, but it's worked really well for me.

And it has a lot to do with my history and kind of how I got to where I am. It's a remarkable how you can, if you look 10 years ahead, it's actually easier to see directions of change that if you just stay stuck in the present, that really noisy present, it's very hard to see present forward, especially in a very noisy time, like we're in right now.

STAN: Can you give an example of what that might look like for our listeners?

BOB: Sure, sure. So take the example of sensors. If you look 10 years ahead, it's really obvious. We're going to have sensors everywhere, they're going to be very cheap. Many of them are going to be connected, and some of them will be in our bodies.

So right now, probably with this group of us that are having this conversation today, maybe half of us have some kind of body sensor on already, like Apple Watch or Fitbit or whatever, 10 years from now. It's just obvious that everybody in a group like this will have a body sensor, if they want them. And half of us will have embedded body sensors. That's just obvious, thinking future back.

What's not obvious is how do we get from here to there? So that's what I mean by future back, you'd take those elements of the future that you *can* say with clarity, at least with regard to direction, and you say, "Okay, What are the givens of that next decade?" And then you work backwards and say, okay, how do we get from here to there in a constructive way? And how do we avoid the risks associated with this?

Because, you know, yesterday I was in a planning session for an event that I'm doing on cybersecurity in pharma production, and that world of sensors everywhere, you know, that's paradise for hackers, even though it's also really good for us in terms of making healthier choices.

CHRIS: Bob, just follow up on that, that 10 year window back, when did you start doing that? And, and why? Because Stan and I both use a drill when we're mentoring and working with younger leaders, asking them to write a five-year letter. So, go, go forward five years and write a letter to your today self. What have you done to get there?

And, and usually in five years, especially younger folks, it's a great way to say, okay, the odds of all that happening in five years are, are, are not likely just, just not enough time in the day. So now let's prioritize it. You can do them all in your lifetime, but how do we prioritize against those? So, I'm curious when you, when did you start thinking like that?

BOB: So, the Institute started in 1968. It's the longest running futures think tank in the world now. And it started as a spinoff of Rand and SRI, Stanford Research Institute, at the time. And we found 10 years is really the sweet spot. Five years isn't far enough because there's so much inertia built in. And, you know, we distinguish between trends, which are patterns of change that

you can extrapolate from with confidence, and the trends really dominate in a five-year period, even, even in a VUCA world, a highly volatile world, but 10 years you get kind of beyond the trends into the disruptive space.

And yet it's not so far out to be incredible. And you know, in the leadership exercises, you know, sometimes I like to go even further and say, write your obituary. You know, what's your, what's your legacy? But you have to choose what works for which people.

What I find is 10 years is that sweet spot for most companies. We sometimes go further. But we rarely go shorter. So when, I've had... I did a custom forecast recently that was focused on interactive entertainment and it was very practical, fast moving company. And, you know, they said we, we can only go five, so you can only go five. And I said, okay, but I'm going to go out to 10 and work back and I'll just tell you about five. But I got a much clearer idea by going 10. And then coming back to five. Five, just isn't enough in this period.

Now there are cases where you want to go further. So, we did a project a few years back on the future of food security, and it was focused on Western Europe. It was for a company in Western Europe and the discussions were so polarized there about GMO foods that 10 years wasn't enough. Very well-intentioned people who thought GMO foods were a yes/no choice.

And GMO foods are not a yes/no choice, but you have to go further out to see that. So, we went 30 years out there. And that's where you realize that if you're going to address food security to think about global hunger, you've got to think about food chemistry. So that labeled GMO foods just kept us stuck in the polarized present. We had to get further enough out to loosen those polarities.

STAN: Yeah, it's fun. In the course, Chris mentioned the letter we have students write to themselves five years in the future. I was doing it with them and then I started realizing that five years in the future, I was writing my obituary. I just grade them now.

BOB: Well, you're going to live longer than that, Stan.

CHRIS: Bob, we want to get to some questions around, uh, AI and the current work that we're doing on risk that I know you think a lot about as well, but I want to tease out one, one more on this, because it's just so fascinating. How do you advise, especially folks in industry, when you find that inevitability. This is going to happen, therefore we're on the right thread.

It doesn't mean that you won't be broke in the, in your 15-year window. Right. Because if you're, if you're betting everything on a 30-year idea, who's going to invest in that. Right. So, you can, how do you advise them to... here's put realistic goals in line with that much longer-term vision?

BOB: Yeah. Yeah, it's a great question.

So, here's where I distinguish between certainty and clarity. So, when you look long and you kind of focus 10 years out, you can develop your clarity. And the rule of thumb here is you want

to be very clear where you're going, but very flexible how you get there. And this is very similar to what you all talk about in terms of commander's intent or mission command, or, you know, my favorite term is now flexive command, or you want to continuously reevaluate who's in the best position to make which decision at what time, based on situation awareness and based on After Action Reviews, but all is going back to that clarity of direction. So, you want to have clarity of direction. And once you have that clarity of direction space, then you build in your risk planning and it, and it is essentially placing bets. You, you, you know, you don't want to.

And you don't want to bet the farm on just one narrow path, you want to, as, as a futurist, I think of the cone of uncertainty and your goal is to reduce the cone of uncertainty to develop your clarity, but moderate your certainty, because certainty is too brittle. So, you want to reduce the cone of uncertainty, but then you create your zone of clarity, and you cover your bets within that zone.

CHRIS: It's funny, you, you frame it like that, in this Risk series, we say, Stan and I had a conversation on this podcast around underwater operations, in the special operations community, where you put in, where you can't see exactly where you are and you have to build in cones o... it's called an air box in that world. But it's the same idea I can only know. Right. At your second way point, your, your, your airbox is massive. Right. So how do you set resets in there?

Can I shift slightly to, to AI space, as I just mentioned. Stan has a book coming out here shortly, around risk, been thinking about that for a few years now. And, and, and really much of what he did in the military was, um, identifying ways to de-risk a network threat, right? How do you move fast enough to keep up with it? And so, our whole model of teaming is built around that idea in many ways. But with a common patient of artificial intelligence, introducing, you know, at a very rapid rate now, you know, I'll oversimplify it because over my skis, but at some point that gives us the radically, like the ability to know everything.

I don't think that's necessarily true, but as it gets further down that road, where does risk factor into that? And what new types of risks are going to be popping up when traditional risks might at someday at some point seem elementary, because you can do so much with, with big data sets?

BOB: Yeah. So, can we take this question in two pieces, Chris? Because the first thing I want to talk about is, is artificial intelligence. And you know, a lot of my career has been focused on emerging technologies. And one of the big lessons from that is if you get your language right to discuss an emerging technology, it'll draw you toward the future. And if you get your language wrong, it'll fight the future. So, in order to ask the risk questions that you you're asking, you've got to frame the question well.

And artificial intelligence is the worst term for an emerging technology that I've ever studied. The term has been around a very long time, you know, more than 60 years. It was coined at MIT. Marvin Minsky, Herb Simon, a bunch of really great, brilliant people were involved in it.

And they were thinking... I wasn't there. I did read about it a lot, and I've met some of those people, but they made the choice to go with artificial intelligence rather than what would have

been a much better term: augmented intelligence. So, they went with, they went with artificial. So, it created a very bad conversation about to what extent are humans going to be replaced by computers and all this “horseless carriage” thinking. And it slowed up the emergence of symbolic computing, which is what they were working on. Slowed it up by at least a decade, maybe more.

So, where I would begin with language is, think about it as augmented intelligence and sure, there will be some cases where computers will place humans, but that's not the big story. You know, the big story, Tom Malone talks about this in his new book. The big story is humans and computers, doing things that have never been done before. And Tom calls them super minds, you know, super minds, so that's a much better term. I think that draws you toward the future.

So, you know, that's where I'd start. So, if you look 10 years ahead and again, thinking future back, we're all cyborgs. We're, we're all cyborgs. I mean, that's, that's the inevitable path we're on now. We're all cyborgs a decade from now. So, we're all augmented in some way. So, the question is how are we augmented? So that's the frame I'd start from.

And then you, let me come back and then address your, your question about, about risk and the way I would say it. We, we won't really know everything about everything, as you said, we're, we're gonna know a lot about everything. There's going to be more data than we could ever imagine. And, you know, we, we call this in Silicon Valley, we call this the data gold rush, and that's what it's going to be like over the next year. A data gold rush.

So, we talked about health sensors earlier. There's going to be a health data, gold rush. So, there's going to be more data than we've ever had, but the downside is it's going to be harder and harder to make any sense of it at all. So, we're going to get all this personal health data from our body sensors, but we still have to decide, well, what's a healthy choice?

What's the healthy behavior? So, the choices are going to get hard, and that creates this new opportunity for advisors who can advise people about, about choices. And that's where the augmentation comes in. The risk is that it also creates this kind of Nirvana for hackers that are going to be looking for ways to hack that space. And that's where the risk comes in.

So, that's the way I would respond to your question is to slightly reframe it, to focus more on augmentation of intelligence, and then think about risk in that context.

STAN: I think this is fascinating, Bob, because it goes back to a couple of things. One to quote that... always sticks with me. It's inappropriately attributed to Mark Twain. It says, “the things I didn't know, never hurt me with those things. I was sure about that were just wrong.”

BOB: Exactly.

STAN: And I go back to Chris and my experience in the counterterrorist fight, and we would have more information about what was happening than ever before. We had Predator, unmanned aerial vehicles, so we could watch in real-time. We could listen to all the radio transmissions. We

could literally watch each SEAL, Ranger or operator moving around like chess pieces on a board. And yet that was deceptive. It gave us the illusion that we knew what was happening. We didn't. We had a very two-dimensional picture of it, but what's happening is much richer, much more three-dimensional, much more real than that.

So, where I'm going with this is if we start to think we know an awful lot about risks, how do we keep ourselves understanding that we don't know everything, and those things that we do know may not be right? How do we train ourselves that way?

BOB: Yeah. And, and, both of you, I think are great role models for that. The way I see it as a futurist, the way you train yourselves for that, is you game it. You know, we all have to be gamers. So if you think of leadership, future back, we're all gamers. We all have to be gamers because gaming allows you to set up a low-risk way to practice. You guys call that war gaming, but in business, it's the same thing.

And here's the really good news. We've got a generation of kids coming up now that grow up with video gaming. And if they're lucky, they have parents who coach them on the trade-offs of choosing the right kind of games to play, but that mentality of a gamer to practice in low-risk ways, that's the way you prepare and what you need to thrive in this kind of VUCA world, you know, volatile, uncertain, complex, and ambiguous, to thrive in the VUCA world. You have to be very strong, very humble. You have to be very clear, but not certain.

And the way you prepare for that is you continuously game it and you make the games harder and harder and harder. So, you're always ready for that. And the more you game, the more you reduce the risk.

STAN: Let me ask a follow-up if I could, because if you were hiring someone for a tough job and you had two candidates and one of them was brilliant, they got perfect scores on their SATs, and the other person was not brilliant, but through using tools, they could do even better. Meaning, they are so adept at using things that weren't natural capabilities, but they could leverage things, which is the better hire?

BOB: Oh, I'd definitely go with the latter. You want people who have that ability to make things, to try and fail, to learn as they go.

You want the rapid prototypers. You know, our motto in Silicon Valley is fail early, fail, often fail cheaply, and you want people in the field who are able to do that. And again, a gamer's mentality allows you to practice that way because you're expecting that continuous prototyping, that, that kind of mood of, of thinking. I love to have people with strong academic backgrounds, but you need to have people who, ideally, have that, but then become the irreverent about their original training, get deep knowledge in something else, and are used to this kind of experiment-as-you-go learning style, which is actually not typical of PhDs. Oftentimes they go so deep in one area that they don't have that ability to think laterally.

CHRIS: So, building on that and maybe connecting it back to your tenure forecast and we're all, some version of cyborg take that out to 20 years. Whenever it is, where it gets really hard for someone like me to imagine, but you do a lot of work here.

Can you imagine a... I don't know, I'm thinking about like applying to college or to the military, to the special operations, whatever that looks like in 30 years. Is there, are there questions around like, what level and type of augmentation you have as an individual? Is that a, is that a class that we want to understand before we accept people?

BOB: Yeah, exactly. Exactly. So, you know, we actually have a kind of graphic, a distribution of that in terms of what's the, what's the blend of human and augmentation? Where are you in that curve? And what's the nature of your augmentation? And kind of, how do you, how do you blend? Because really separating is going to get increasingly hard, particularly at top leadership roles that we're going to be so deeply augmented.

Every, every, every good leader is going to be deeply digital 10 years from now. Everyone it's too late now to have a digital strategy. Now you need a strategy that includes digital. It's too late to have separate IT leaders and, you know, separate digital leaders. All the executives, all the top people as, especially the rising stars now, because they'll grow up with this stuff more than those of us who are older.

So, it's just going to be built into the way we think. And that's what I mean. It's kind of startling to think: we're all cyborgs 10 years from now, but that's where we're going to be. We're going to all be augmented and it's going to be our choice, how we're augmented and then the skills that we use to practice that kind of augmented life.

STAN: Yeah. I'm going to put you on the spot there because you, you pull into a theme that Chris and I are passionate about: the leader part of it. So, what does that look like? Because I've seen some leaders who have moved over to the digital world and that's how they lead now. They lead from a computer or from a phone or, or that sort of thing.

And then I've seen others who sort of stubbornly say, I've gotta be able to look people in the eye a certain percentage of the time. What, what do you think it's going to look like, call it 10 years from now?

BOB: Well, it's going to be blended. It's not an either/or, Stan. And we've kind of an interesting experience in a, in a, one of my favorite writers about the application of analytics is Michael Lewis. You know his whole career... he's on his 16th book now called *The Premonition* about the practitioners of what he calls "dirty math" who got ahead of the COVID virus.

But Michael Lewis wrote the book *Moneyball*. It was 2007 maybe. And that was just kind of the beginning of Major League Baseball, thinking about analytics. And, you know, at that stage, it was kind of framed as an either/or choice either you're analytics oriented or you're not, but if you look at Major League Baseball now, all the teams are using analytics and the best managers, the best leaders are blended, but everybody's digital now.

And you know, there's a few who aren't, but nobody's completely digital either. So, it's not digital in the predictive sense. It's digital in the sense of clarity, but not certainty. So, you want to be very clear where you're going, very flexible, how you get there. So, I think that's the way it's going to play out with leaders. We'll all be deeply digital, but there's still the "look them in the eye" thing is really important.

And you know, that's, we're just doing a new project on the future of offices and workplaces. Right now, the current literature says meeting in person is better for orientation, for trust-building onboarding, and renewal. It's just better to get to know people in person. It's not just looking them in the eye, it's knowing the context of their lives. But again, you gotta be just as good when you're not there in-person as you are when you're in-person. Most of today's leaders are great in person, but they degrade severely depending on which medium they're in.

And they aren't good at choosing which medium is good for what.

CHRIS: On that particular thread, because it is everyone's having that conversation around, for, for understandable reasons. What technologies give you... do you think are gonna get pulled forward the fastest, to, to account for that second bucket? Is it virtual reality glasses that make it feel it like the three of us are in the same room right now, or where do you think that's headed?

BOB: Well, yes and no. There's a trap here, which is what I call the "horseless carriage trap." And a lot of the development of new media has been to try to simulate in-person. That's not an interesting question for me, because I think there's things that face-to-face does better than virtual media, and that'll always be the case. The interesting question is what can you do virtually that you can't do in-person? You know, how can we develop media that allow us to do things we can't do?

So, yes, I'm really interested in virtual reality. We're, we're using, the Oculus Quest 2, for some of our leadership development experiences now, but it isn't just to simulate face-to-face. That's kind of the horseless carriage thing. It's to create experiences that you couldn't have if you were in person and allow you to have a kind of conductivity that you couldn't have before. But as leaders, it always comes back to which medium is good for what and how do you choose which medium to use in which situation?

Which means as a leader, we got to be good in all of them. And then you've gotta be really good at, at choosing which medium is good for what and the skill and using it is really critical because a lot of what people call now, "zoom fatigue." It isn't zoom fatigue. It's bad meetings in zoom. It's not just the medium. It's like blaming PowerPoint because you did a bad presentation.

It's not PowerPoint. It has its limitations, but it isn't about PowerPoint. It's about designing a story that communicates in a compelling way through PowerPoint.

CHRIS: Teasing that one point back... when you, when you talk about things that you can do through the next layer of technology that you couldn't do in person, can you make that a little

more real? Like what comes to mind? Because you're exactly right. When you look at the future of a campus, which you see as images of avatars going into, you know, digital buildings, which is to your exact point, just another way of recreating real life. So, what are the types of things you think we're going to be able to accomplish differently that we can't do a person?

BOB: It's things like being able to go into environments that are difficult to, to go into. So, for example, if you're teaching medicine, if you're able to use virtual reality to go inside a human heart. That's something that you couldn't do in-person. And even with a cadaver, it wouldn't be the same, but if you could actually go in a virtual heart and look around and you kind of move around spatially, you could create an experience that wouldn't have been possible in-person.

And then you can talk about it and, and share the experiences out of it. So those are the kinds I'm interested in. How do you, how do you create opportunities for communication that wouldn't exist in person? Now there are cases like we've experienced with COVID where you do want to simulate elements of face-to-face. And we work with Microsoft leaders a lot, for example, and they're doing a really good job with virtual onboarding because they've realized the onboarding process is linked to food and linked to experiences. So, they're actually setting up some really neat onboarding experiences now where they send out the same food package to new hires and to various people on the team. And then they eat food together and it's the same food. So, it's like being at a restaurant. And, and yet they have a food experience virtually because they can't get together in-person. And, you know, that would be another example of that's, you know, it's sort of horseless carriage, but it's working within the fact that they can't have an onboarding experience in-person because of COVID.

CHRIS: We did that same thing, but we do it with bourbon.

BOB: Nice. Well, I think that's good. And you get the same bourbon, the same wine, and then you do the tasting. Yeah.

STAN: That lasts for about 40 minutes and we lose all order. No, it's interesting. During the fight in Iraq, we used to put cameras on the back of dog's heads, and they could go places that humans couldn't go both they could get. And yet we could see in real time what they were seeing. So, we could vicariously get a sense of what was happening.

I've got a conversation later this afternoon with a CEO of a company that puts headsets on people. And it does two things. One, it allows the person with the headset on, who's doing the task, to get expert information in the moment. It might be from a manual, but it might be from an expert saying, okay, you are working on this, now here's the person who designed it. He can tell you, don't cut that wire cut that wire sort of a thing, and we can learn and experience in the moment. How does leadership go when we start to be able to be in the heads of our people, beyond the heads of our people, I guess I should say.

BOB: Yeah. It's such an interesting question. And you know, obviously it raises immediate privacy issues, you know, how, how close do you want to be, if you can, in the world of sensors

everywhere, what if you want to monitor their body performance? And if their heart rate is going up, you get to know that as a leader. You know, what are those, what are those boundaries?

But the way I would think about that as you, you want to create this kind of blended reality experience in your brain, as a leader, and then you want to link to the people you're working with and the, and the environment that you're working in. My current book is called *Full Spectrum Thinking*. And that's the concept of thinking about the future across gradients of possibility, while resisting, resisting the temptations of simplistic categorization or simplistic labeling or simplistic kind of, you know, just cause simplistic judgment about... with, with certainty rather than clarity. So, full spectrum thinking. The great news is the tools for full spectrum thinking like what you're talking about, Stan, that's a tool for full spectrum thinking, if use it right.

The digital tools for big data analytics, for gainful engagement, for artificial intelligence, for machine learning, those are all tools that help us think in a full spectrum way, rather than just with simple categorization. And, you know, computers, the history of computers, it's the ultimate categorization machine. We're sort of forcing things into zeros and ones, but that's not the future of computing. We're now on the way toward quantum. We're on the way toward full spectrum computing and our brains already functioned that way naturally. We need to blend them though with these kinds of new digital tools, like what you're talking about.

CHRIS: I've got a few different areas I want to pick on, but I'm a little to start with the... I've read some sort of future thinking by ... and others in that space around what this transition will look like over time. And so, I'm 48. So, when I'm pick a number, when I'm 75, if I live that long, will... is there, in your view, a point where my grandchildren, if I had grandkids at some point, are augmented in a way that they can, they got Wikipedia in their head, right? And I decided not to do that right age down possibility.

And that, you know, that's just multiple orders of magnitude different in ability to process information and understand things. And how do, if you think that is that stark of a contrast at some point, eventually we sort of aged through it, I suppose. But what does it look like when we start to hit this differentiation between, that massive shift?

BOB: You mean in terms of generations, or in terms of technology, or both?

CHRIS: I guess you could look at it generationally and maybe by... there could be socioeconomic divisions. There could be reasonable division between nations where, you know, X percent of United States is augmented to a certain level and others aren't.

This, this massive disparity, disconnect, between generations between the parts of the world, or is that, do you think it's going to be more... a more gentle transition?

BOB: Yeah, I don't think it's going to be gentle. There, there are in the, in the current full spectrum thinking book, I talk about two digital thresholds: one of them in 2020 and one of them in 2010. The first digital threshold was the iPhone and the iPad, the first move from separate

tools to immediate ecology. So, if you were a young person about to become an adult, which happens between 13 and 15, depending on the kid and the culture.

So if that happened to you in 2010, you'd now be 25 or less in 2021. That's what we call the first true digital natives. The ones who grew up with digital media. It's not the millennials. They're too old. It's not me. I grew up with the internet when it was the ARPANET, but I'm too old. So they're just different.

Now, 2020 will be a second digital threshold year. And it's because of homeschooling. It's because of Zoom, it's because of all the different forced virtual work, but it's also the release of the Oculus Quest 2, which is the first inexpensive blended reality interface. And it, it, you know, it still can't be afforded by everybody, but it's a lot better than it was.

So, that's the beginning of what we call the XR natives or the cross-reality natives. So, I think as you look, 10 years ahead and beyond, these generational differences are going to be really important. And it's, it's interesting. One of them was 2010. One of them was 2020. The next one might be 2025, because the digital technology is improving that fast.

But we'll certainly have a next one. And with kids growing up with that, that gives you a competitive advantage, and it does create gaps. And I think this is a big issue with the military, where your promotion cycles are great early in the career, but not so great later in the career. And that's going to be emphasized.

Now. There'll be these gaps. Where the younger people are actually better performing than those that are older than them, because they're better augmented digitally. And we're going to see that and in companies too. So that blend of, or that blend of augmentation and, and human, will elevate the skills that... you know, the big question, Chris, for the next decade, the big question is: what can humans do best? What can computers do best? We're going to get the answer to that over the next decade. And that's where we have to focus because I'm not saying we automate everything. That's why artificial intelligence is such a bad term.

There was a term early in my career called "office automation." Another really bad term. It isn't just about automating. It's about augmenting, and figuring out what humans do best, what computers do best. And that gets back to your question, Stan, you know, the best leaders know when to play the human card and when to play the digital enhanced card.

CHRIS: Just a comment, I know that Stan has a follow up.

But I'm the only time I've won one acute moment where, what you just said about the military will always stick with me. It was sort of a, you know, a little think tank sort of group. When I was out of the, out of the military. We're a young, special operations officer was updating, you know, everyone else in the room was sort of, my generation, slightly older, around sort of future thinking.

And it was actually... we're all sort of linear thinking, like how much faster should we be able to run in five years? Or whatever. And this younger officer who just come back from the second fight in, in Iraq, against ISIS, and was describing off the shelf mini drones that were dropping grenades. And he's like, you guys are worried about pull-ups. Let me tell you what we just faced a month ago.

And that was, you know, eight years earlier, there was nothing like that. And so that level of rapid iteration that, that younger generation is exposed to... and it comes back to the leadership question. How do leaders stay in tune so that they can apply their wisdom of maturity to a space wherever you go to work that younger generation has been exposed to for years.

BOB: Yeah. Yeah. That's such a good story. And, and, and my understanding of those weapons was those weren't developed at MIT or at some research lab, they were put together with, you know, by people in the field, you know, they, so they, they were maker instinct innovations, not, not lab innovations. And that makes the, that, that difference even more, even more extreme.

STAN: Bob, I'm going to pull on two themes, one, the leadership part, and then what Christus raised and you commented on where's the risk here. And the reason I say: is for as many generations as we can remember, there has been a legitimacy that comes with gray hair, and experience, and scar tissue and just life on earth and that sort of thing.

And so we, we tended to give legitimacy to leaders who've been around a long time, but what we talk about with augmented intelligence, the ability to manufacture experience through gaming, the ability to understand levels of technology that older generations can't. How about the risk? How, how much of a brutal dislocation will this be?

When suddenly, a generation says I don't, I don't respect your right to be in charge. You should not be the CEO because you've been here longer. You know, that sort of thing. Where are the risks that you think will come from?

BOB: Yeah, there are risks of that. If that transition isn't happen, it doesn't happen delicately. And I think by it has to be more nuanced than that. And I think even though I talk about true digital natives and XR natives, and I'm, I'm very optimistic about kids. If they have hope. If they have hope. But if they don't have hope, they become depressed, suicidal, or dangerous, you know, those are the kids that get recruited for terrorist groups, if they don't have hope.

So, I think there's a real... there's something to be said for aging, and that's not going to go ahead. It's not going to go away. It will go ahead in a, in a real sense. And the way I like to think about it is if you're, if you're older than 50, you have license to play the wisdom game, and maybe it's older than 40.

Now, maybe it's older than 35. I don't know exactly what the threshold is, but at some stage, you're not competing digitally because the kids have a competitive advantage. You can still be augmented, but you have, you have the wisdom, you have that ability to see linkages, to see patterns that the kids won't see. And that's really interesting. If you look at Chip Conley's work,

you know, Chip was the founder of the theme hotels in San Francisco, and he now does work on corporate elders. And he talks about this ability to see patterns that elders have, that kids don't have. So, one of the most powerful innovations right now is cross-generational mentoring.

Every project we do at Institute for the Future is cross-generational. I mean, we're interested in all kinds of diversity, but cross-generational diversity is one that people often miss and it's so powerful to be able to work across generations. So, I think that wisdom factor is going to get more important.

But what it requires is these, these it's Teams of Teams, but where there's augmented Teams of Teams.

CHRIS: Right. It's fascinating. You know, the one thing that, that, all that makes sense and I'm so over my skis talking about augmented intelligence, it's laughable, but the it, but it also seems like... Stan and I teach leadership seminar together, and you, towards the end, you're spending a lot of time thinking about case studies and we really we're trying to make the point is: you want to be a student of this for the rest of your life, because the more you can understand, put yourself in Eisenhower's shoes and realize how the human dynamic, all these things, it'll just help inform your decision-making.

BOB: Yes, and you can game that now.

CHRIS: Right. Couldn't you augment it that at some point? Won't at some point, be the ability to say, well, I can tell you everything Lincoln would've thought about this.

BOB: Yeah, sure. So let me, let me go into a Lincoln simulation. You know, it's like the hollow suites on Star Trek, though. Those things are becoming possible now.

CHRIS: Yeah. Bring back great memories of my 12-year-old years. So, last question, I don't know a lot of them, but every billionaire I know is obsessed with living forever at this point. And this, this catchphrase of, if you, if you can live for another 40 years, you could live forever.

Like, do you think it's on that curve? I honestly don't know. I mean, that's over my skis too. There's, there's two things that are really interesting about that to me. There's a classic mythic concept in Silicon Valley called the singularity, which is when humans and computers become one, in some sense of becoming one.

I don't believe that's going to happen in a simplistic way, but it really is a question of belief. You know, part of my background, before I did my PhD in sociology and started studying the internet, I went to divinity school and studied world religion. So, I do think this background of thinking about religion and faith and meaning... I'm not an advocate of any brand or a religion.

But I do think purpose is extremely important. And there's really interesting data that suggests that purpose-driven people are happier, healthier, and live longer. People who work with

purpose-driven organizations, the organizations perform better, and the people are happier, healthier, and live longer.

So, this whole idea of purpose and meaning, I think is so important and that's never going to get automated. So, as, as humans and computers come together, there's going to be something really miraculous that happens, but I don't think it's going to be a singularity. It's going to be, uI don't what the word for a multiplier... it's going to be a, you know, the, from the theologian, a ... he called it the noosphere and some people thought that was the internet, but it's that connection of life, the kind of mythic connection of life, something like that is gonna happen. I think. And that's going to involve digital, but it's not going to be a simple singularity. You know, singularity is narrowing and what I'm thinking of is widening. So that's where I think that's gonna play out.

Now, applying that to eight. The science of aging stuff is really interesting, but it appears that there's some thresholds there. And we just don't know yet how we'll go past those thresholds. I do think we're, if you think 10 years and beyond, we're all going to be super minds, and at least as leaders, we're all going to have to be super minds and we're going to have the ability to be super healthy, physically, mentally, and spiritually.

So, I do think life extension is going to happen. I just don't know what the thresholds of life extension might be. And once those thresholds get longer, that's where you start to think of, of a blend between an augmented human and a real human and how that space plays out. I don't think anybody knows that, but I'm optimistic about that going in positive directions, but it has all kinds of trade-offs and, and I don't have any sense. It's really a matter of belief now. I don't have any sense that the singularity will happen in a simplistic way or that, or mortality will happen in a simplistic way. That's just not something I believe at this stage, but I do believe that there's some really impressive progress being made.

STAN: Well, you brought it up one my favorite ideas in the sense of purpose. We had, we had two purposes today and asking you to be our guests. The first was for you to tell us if the Boston Red Sox were going to be in the World Series and that's a do out. But then the second was to have a conversation that made everybody think. Made Chris and I think, and make all our listeners really realize that tomorrow's not going to be like today and five years from now. It's going to be very, very different, but it can be better. It can be hopeful. It can be interesting.

BOB: Definitely.

STAN: And so, I'm incredibly appreciative both of your long-term friendship, Bob, but, but your generous sense of time today.

BOB: I'm happy to do it. And I'm, you know, I'm really optimistic about the future in spite of all the risks that we discussed. But hope is the key variable and the kids. That's cross-generational that's the key opportunity for us is to figure out how to work across generationally.

CHRIS: Bob. Great discussion. We should definitely, have you back on before too long, because we could talk for hours, I'm sure.

BOB: Cool. Now I love talking to you all. I have such great respect for your work. Thank you.

CHRIS: Thanks, Bob. I kind of nerd out on this stuff. I read the occasional futurist book and I just, I think it's an interesting space, to think about where we're going to be, you know, 50 years, 100 years down the road.

And it was so I could talk to Bob for hours and I hope we can have him back on. I loved his frame of, you know, I like to start 10 years cause it's, you're not going to know what's going to happen in 10 years. So, it kind of... really forces that backwards perspective.

Starting at the lowest level, though, he, you know, in 10 years, we're all going to be cyborgs of some sort that's, you know, broad generalization, but, but when he broke that down and he's talking about sort of incremental steps that some of us are already doing: wearables, you know, we sort of plug ourselves in, if you're wearing a Fitbit all day or whatever, your, your wearable of choice, if you're in that market and it gives you all sorts of data about yourself that, so that it's only a matter of time before that will be something under your skin and you don't have to charge it. And, you know, as we move down that road, to me, it seems like 10 years is a very realistic number to say a large portion of society will have something like that in their life on a 24/7 basis. Did that jump out at you? Or do you agree or disagree?

STAN: I agree, but it's interesting; from my age, I think there's a tendency to think that, guess what? Things don't really change that much. I still wear shoes and socks and pants. I still do so many things the same way, but then I go back just a few years.

When I left the military, I got a new device. I got an iPhone. And now think about it. We are all connected by iPhones and video teleconferences and things. It is so dramatically different than it was even 10 or 15 years ago. And yet we, we just take them for granted now, and we do so many things from banking, communications, et cetera. And then you take Bob's idea, go at least 10 years forward... if you look 10 years backwards first, and you say, whew, a lot did change. And then you go 10 years forward and you say a lot more is going to change. So, what does that mean?

You know, what, what is it going to mean for how I do things? And I think one of those key points is: I'm not just going to do what I do now, better. I'm probably going to do some things I never thought about. And what is that going to be? And how do I fit in that?

CHRIS: Yeah. One of the points that Bob dove into there was a lot of... because why we were asking about, you know, what's over the last two years, what does he observed when we've been forced into remote sort of connectivity, what technology's advancing, and a lot of what he was talking about was people are trying to take their view of the world and put it into cyberspace. Right.

Chris can't be in that meeting. So, Chris is going to wear, you know, holographic goggles and, and a, you know, a little version in ones and zeros of Chris is going to be sitting in some, you

know, cyberspace room. And it was really... to me, that sounds like, yeah, of course. That's great. But to your point, it's like, that's kind of the wrong way to think about it. Why would we want to recreate the way we do stuff in the physical reality in virtual space? Now the question is I have no idea what the other option looks like.

Right. But... breaking away, just advancing the way we have always done things is going to be a really interesting challenge for sure. I, I can't help, but think about the future of military all the way down to, you know, basic sort of personnel stuff. Right? You know, going through special operations selection as an example. Fast forward, I don't know, 25 years, where there's real physical enhancement that's possible and normalized. Is that, how do you manage those communities when that's the reality? How do you, do you screen for it? Do you, does the kid get wanting to go to Ranger School? Do they have to have the right type of implant to make sure that the three-minute mile they can now run a sustainable or do they get cheap hardware and you got to replace it? I mean, there's so it opens up this just crazy Pandora's box.

STAN: Well, that's right. And then we're going to spend a lot of time in the next few weeks talking about the future of work. What if we don't have jobs in the future? What if you're good at a certain thing, and typically, in most organizations, each of us have a strength that we provide, and then there's a bunch of other things we do in the company that we're not so good at, but it's because we have a job there.

What if that, whatever it is, we're really good at, we do for 20 companies. And we just do 5% of our time on each of those 20 companies with our competitive advantage in that particular skill or, or attribute, then this, the idea of having a job may be completely different. You know, maybe we're all independent contractors that come together in communities of interest that look and feel like a company for a limited period of time.

And then that company doesn't exist a week later. And we find ways to, to share revenue and things like that, so that you can have these almost collision space where you form a company, move out and, you know, solve a task and then move on.

CHRIS: Yeah. Which seems completely feasible. I don't have no idea how you get there, but I can, I can imagine that being a reality. It seems like it's just a matter of collecting and identifying the right huge data sets. And now you're sort of swimming in this space and there's a machine learning sort of model that's connecting the right folks. The scary part of that, for me, is what does that, what does that mean to nation states' stability?

Because if you don't need jobs, you don't need organizations. We don't need organizations, do they need the traditional systems and nation state provides that allows intellectual property to be secure? To route, you know, all the other things that go along with it. These are big systems-level questions.

Are we at the brink of, you know, relative scale and time, of going back to some sort of really strange global, global tribalism.

STAN: Yeah, because if you, if you think about that... where's loyalty? Where is an idea of identity with an organization? Where's the, the emotional reinforcement we get from connection to people, particularly over time when we, we grew up in the military in a place where they made it almost an art form, a cult, to be part of an organization, to have those values, to live that, to sacrifice for it.

And now if we change that and we say, no, it's going to be a much different kind of relationship, almost transactional. And maybe you join an entity for a task with people you never know, and you're never going to know them after that. So, it is this very temporary thing. And then the question is: how does that compete against organizations who use a more legacy approach, where everybody is much more committed?

One, one has drawbacks, but it also has some strengths. It'll be interesting to see that.

CHRIS: Yeah. Yeah. I mean, you get into real questions about what is, you know, the nature of humankind. What's more important? Like that freedom and autonomy or the connectedness that we develop inside of organizations that come with rule sets and, and headaches, but, yeah, I mean, that's, we've got to get Bob back on and he can answer that for us, maybe. A great discussion, and we really appreciate the time with him.

STAN: Absolutely.