All right.

Quick break to tell you about another podcast that we're interested in right now, HubSpot just launched a Shark Tank rewatch podcast called Another Bite.

Every week, the hosts relive the latest and greatest pitches from Shark Tank, from Squatty Potty to the Mench on a Bench to Ring Doorbell, and they break down why these pitches were winners or losers, and each company's go-to-market strategy, branding, pricing, valuation, everything.

Basically all the things you want to know about how to survive the tank and scale your company on your own.

If you want to give it a listen, you can find Another Bite on whatever podcast that you listen to, like Apple or Spotify, or whatever you're using right now.

All right.

Back to the show.

All right.

So last month, Sam went down to Nashville for the podcast movement conference, and he did a fireside chat with John Lee Dumas.

You might know him as the host of the Entrepreneurs on Fire podcast, and if you like my first million, you might like the Entrepreneurs on Fire podcast.

It's the same.

It's like inspiration and strategy around your entrepreneurial journey and helps you create the life you've ever dreamed of.

That doesn't sound too bad, does it?

All right.

Well, guess what?

It's also part of the HubSpot podcast network.

That's who brings you our show and other great business shows.

So if you want to listen, learn, and grow, go listen to Entrepreneurs on Fire.

It's on the HubSpot podcast network.

You can find it at HubSpot.com slash podcast network.

So what is the superpower for Elon Musk?

First principle thinking.

I can look at a system and say from first principles, this should be possible.

So again, just want to make an introduction.

I'm Trunk Fan, a lead writer for the Hustle, and we're here with Peter Diamandis.

Peter, I want to give a very brief intro here.

Just for our audience.

Please, brief for the better.

A lot of entrepreneurs.

Very brief for our audience, a lot of entrepreneurs and investors, but then I'll kind of pass it to you to break down who Peter Diamandis is because you'll obviously do better than me.

But so, you know, you went to MIT where you studied biology.

You got a Harvard medical degree.

At the same time, while you're studying medicine, you started a space company, satellite, I believe, microsatellites, and you basically kind of gone this route since where you've been involved in the cutting edge of science and technology.

You founded over 20 companies in the human longevity space, in the space space, and you also very famously known for the X Prize, which is where you solve the world's grandest challenge with the incentive prize competitions.

It started with the Ansari \$10 million space prize, which that was awarded, I believe, 10 years after you started the prize from, I believe, \$97,006, and that technology was later licensed by Vermjer Galactic and your friend Richard Branson.

And this year was a very, you know, big milestone year for that when he took that first flight. And now you've spent a lot of your time in the past few years, I believe longevity is a space you're very interested in.

And I would like, I guess, from here to pass the baton off to you.

With that kind of context, what is peer DMN is doing today in 2021, and what is most important to you?

Oh, my God.

I think what's most important to me is helping entrepreneurs make a bigger impact on the planet.

When I think about the tools we have as entrepreneurs, as executives, as leaders, it's never been more powerful than today.

And I think that entrepreneurs are the means by which we can address the world's biggest problems and uplift every man, woman, and child on the planet.

And so that's a driving force for me.

You know, I teach and I talk about massively or massive transformative purposes.

And I help a lot of entrepreneurs come up with their purpose, their passion, their MTP.

And mine is to inspire and guide entrepreneurs to create a hopeful, compelling, and abundant future for humanity.

So I think about that a lot.

And right now, I'm working on my fourth, fifth, and sixth book.

I have a book with Tony Robbins called Life Force.

It'll be coming out in February, which is looking at all of the breakthroughs that are adding decades onto your life.

I've got a book with another friend, Salimis Mayalko, Exponential Organizations 2 that looks at a new species of company that exists today.

These are companies that are performing by tenfold their competition.

And then just because abundance as a book was so important to me, we're approaching a 10-year anniversary.

I'm going to do an abundance revisited because so much of the case for abundance is so much stronger and there is a few key places that it's weak and we need to focus attention.

So that's what the book will be about.

I'm a dad of two 10-year-old boys.

I have a half a billion-dollar venture fund, Bold Capital Partners.

I have a few four companies in the healthcare space.

I've got a new venture called Future Loop we can talk about, which is how do you get the news that actually is meaningful to you versus the dystopian negative news out there? And I'm just out of a kid having fun following my dreams.

No, that's perfect.

Actually, definitely a couple of those items were on my question list.

I know you have talked about the crisis news network in the past CNN and I'm sure Future Loop is meant to address that.

So last week I asked my Twitter audience, have the opportunity to speak with Peter Diamandis.

Do you have any questions?

I mean, by far the majority were around your longevity work.

So I kind of want to toss some questions that general direction just to get started and happy to knock off some of those other topics later.

So just from the top level, I know that you are friends with David Sinclair.

He wrote the book Lifespan and you mentioned him in your previous podcast and interviews.

So I was wondering if you could speak through, I'm not sure if you 100% are in agreement in alignment with his signs or what he thinks about life extension and reversing of life aging.

But my question would be then, if you were to set the field of where the science is and how you look at life extension and longevity, is it that you're thinking about reversing aging or stopping aging entirely as a framework?

It's a great question.

And I think one of the things that David Sinclair deserves absolute credit for as a spokesperson in this field with incredible credentials, right?

He's a Harvard Medical School professor of genetics, extremely achieved.

His book Lifespan is an amazing book that I promote more than I do my own books.

If you haven't read Lifespan, you should go out and get that book.

By the way, it's a great audible.

He does an interview between every chapter and David's just brilliant.

And David has helped people understand that aging is a disease.

And that it's the cardiac cancer, neurodegenerative, all of these things are correlated with aging. The more you age, the higher probability of these things.

And David has spoken about the notion that aging is a disease that can be slowed, stopped, and even reversed.

Now, a couple of thoughts just to put this in context for folks, and I spend a lot of time, like 80% of my investments are in this place.

I run a community called the Abundance 360 Summit where I coach some 400 CEOs and leaders.

And the most popular topic there is longevity.

Every year I sort of say, this is on the leading edge.

This is on the leading edge.

This is what you can do now.

This is what you do this decade ahead.

So the question is, why do we age?

And there's a few things to point out.

First of all, back 100,000 years ago, a million years ago, when we were early hominids evolving on the savannas of Africa, you would go into puberty at age 13.

No birth control back then.

So by the time you were 14, you were pregnant.

And by the time you were 26, 27, 28, you were a grandparent.

Your kids were having kids.

And back then, food was scarce.

There was no McDonald's, no Whole Foods.

And the worst thing you could do for the perpetuation of the species was steal food from your grandchildren's

mouths.

The best thing you could do was like die and give back your bits.

So we didn't live really past age 30, past the late 20s back then.

And so if you had a disease that would kill you in your 40s, 50s, or 60s, it was never selected against.

And so we didn't promote, we didn't have evolutionary forces for a long lived life.

That's the first thing to point out.

The second thing, interestingly enough, I'm 60 now.

I have the same genes as when I was 20.

And the guestion is, why don't I look like I was 20?

And it turns out it's not your genome sequence.

It's not the 3.2 billion from your mother or 3.2 billion from your father.

It's which of those 30,000 genes is turned on and which is turned off.

And that is called the epigenome, epi meaning above the genome, it's control.

And your epigenome determines which genes should be on and should be off.

And the challenge is, as you get older, some of the wrong genes are on and some of the wrong genes are off, and that's principally what's driving aging.

And so there's a lot of different approaches to addressing that.

And when I think about the biggest markets for entrepreneurs or investors on the planet, it's AI and longevity or biotech.

There's no bigger markets on planet Earth.

Right.

You have said that if you want to make a billion dollars change a billion people's lives, right? Yeah.

I love saying that.

This would be 8 billion people's lives.

Yes, it would be.

And I say the world's biggest problems, the world's biggest business opportunities.

And here's one of the problems is everybody up until now is considered aging inevitable and just part of life.

But what if it isn't inevitable?

What if, in fact, aging is something that can be slowed, can be stopped?

That would be extraordinary.

So you kind of mentioned how, sorry, can you hear me, Peter?

Yeah, yeah, I can hear you fine.

Oh, sorry, I was just going to ask, you mentioned how large the longevity space was as an opportunity.

I was wondering if you could talk through some of the subverticles, and I know you've invested in stem cell research and also gene therapies.

What are the kind of the equivalents of, for example, if you were to go into finance, you could go into asset management insurance or something, what are the similar sort of things?

Sure, sure, sure.

Yeah, so first of all, I would say that there's biotech, which is drugs, small molecules or cells being used to impact health.

Then there is MedTech, which is AI, robotics, sensors, networks, and so forth.

So divide into those two areas.

In the biotech arena, I'm very interested in the world of stem cells.

Your stem cells are what are called pluripotent cells.

These cells can go from a stem cell into any number, any tissue, neurons, liver, kidney, cardiac, pulmonary lung, et cetera, and differentiate those tissues.

And when we're born, our placenta is an organ that generates all these stem cells.

I think of it as a 3D printer that manufactures the baby.

And then when we're born, we have a large supply of stem cells, and those stem cells are there to repair any damage to go from this pluripotent stem cell into new skin, or nerve, or muscle, or whatever it's required.

But as we grow older, our supply of stem cells diminishes radically, like a thousandfold, a hundred thousandfold.

And so you have less cells, these stem cells in your body, to really solve any damage.

And so one of the areas is how do you revitalize your stem cells?

How do you supply new stem cells to the body?

That's a big area of interest.

And one of my companies, Cellularity, just went public on the NASDAQ, CELU, is one of the leading manufacturing companies for using cells as medicine, cellular medicine.

And it derives from the placenta, natural killer cells, T cells, stem cells that are

then used in any human, because the placenta has a very unique quality that it doesn't know self yet, and it can be provided to any person with any kind of immune reaction.

Another area is the area of vaccines.

And vaccines have become very well known in the last 18 months, two years with COVID. And let me just put my plug in for everybody, guys.

Vaccines are science, and if you've not been vaccinated for COVID, please do.

The CDC just came out with a study that says you're 11 times more likely to die from not being vaccinated than you are to die from being vaccinated, meaning the numbers are there and you're panning out.

But vaccines can also be used for different things.

And one of my company's vaccinate is using vaccines to stop Alzheimer's, Parkinson's, heart attack, and stroke migraines.

We use a vaccine that turns your immune system on to create antibodies that target a specific protein in your body.

And it's a way of treating chronic disease for pennies on the dollar, 100, 1,000 times cheaper than other biologics.

Other areas are small molecules.

David Sinclair talks about NMN, nicotinamide mononucleotide, which is a precursor to something called NAD+, it's part of the energy system of your body.

And it helps you control which genes are turned on and which genes are turned off. And this book, Life Force, that I'm co-authoring with Tony that comes out in February is a look at all of these things in a very understandable language.

And so you walk through kind of the medical technology and the biotech side.

Let's say that the applications of these advances were to be implemented.

How long do you think somebody could potentially live to?

And over what timeframe would this happen?

Yeah.

So my mission, what I'm focused on right now is how do I add at least a decade of healthy life this decade, and then we're going to start intercepting a whole new set of biotechnologies. Now the other area of biotechnology, and I'll come back to this to your question a second, other area of biotechnology moving at light speed is the whole CRISPR gene editing systems and there are multiple CRISPR gene editing systems, which are becoming extraordinarily powerful in being able to do precise edits in your book of life.

Our DNA is a language of four nucleotides represented by ATC and gene.

We have 3.2 billion from each of our parents.

And CRISPR allows us to go in there and edit and correct a single nucleotide, which a lot of times can be the cause of a genetic disease that's ailed your family line for centuries. The other is gene therapy, which different from CRISPR, which is to edit your existing genome.

Gene therapy is using a sort of a robotic virus, typically what's called an adeno-associated virus to deliver a new copy of a gene into your cells.

The gene could be an additional copy of what's there.

It could be a copy of a gene that's missing or an alternate version of a gene that you already have.

And this plus genome sequencing plus genome writing is really moving at exponential speeds. So these are the technologies along with artificial intelligence that are making a dent in the longevity universe.

I think in conversations with folks like David Sinclair and George Church, both at Harvard, the notion is they both believe and have said that they think we can get to 120 at least, 150.

Now, I'm 60.

If I make it to 120, I'm intercepting 60 more years of advances.

And I guarantee you that we're going to slay aging period probably in the next 20, 30 years at the outmost.

So it's ultimately a phrase that I use from Ray Kurzweil is living long enough to live forever.

Your job isn't to make it all the way to 120, it's to live an extra 20 years for the purpose of getting to the impact of quantum computing and AI on these areas.

There's a concept called longevity escape velocity that Ray Kurzweil has popularized and I write about in this upcoming book.

And it's the notion that today, for every year that you're alive, science is extending your age by a quarter year.

Now, the question is, when will we get to the point where for every year you're alive, science is extending your life for more than a year?

Ray Kurzweil predicts it's the next 12 years, and his predictions are pretty damn good.

George Church has said he thinks it's within the next 10 to 15 years, so the same timeframe.

So this is where we're going and ultimately, I don't think, what wouldn't you pay for an extra 20, 30 healthy years of life?

Now this is not slobbering in a wheelchair.

This is where you have the aesthetics, you look great, the cognition, you're thinking clearly, the mobility, you're able to move around to enjoy those extra years.

So what would you do with an extra 30 years of healthy life or more?

No, I think, I mean, David brings it up in his book, where there's societal implications of all these extra years.

So that's actually one of the questions I wanted to touch on is, what is the accessibility to your point?

Like what would somebody pay?

Clearly, somebody with means would pay almost anything to have their life extended.

And the question becomes, how accessible will this technology be?

And if we were to extend life, I know the common questions are around resources, overpopulation.

I know those are counter-forces too of just a lot of...

Well, let me address that.

So first of all, let's dismiss the overpopulation myth.

I put out a blog just a few weeks ago and I put out about three blogs per week on science and technology impacting Longevity, just go to diamantis.com and you can look for this as a search bar in my blogs.

And it turns out that when the book, The Population Bomb was written, things looked dire.

This is like 50, 60 years ago.

Back then, the average was something like five children per family globally, especially in Africa.

But today, we've dropped from like five and a half children per family globally to a reproduction rate of like 2.4 children per family.

And the United States were below the replacement rate, which is 2.1.

In Japan and many parts of Europe were below the replacement rate.

China and India, Africa have all come down.

I was interviewing Elon Musk in April.

We were launching a \$100 million XPRIZE he funded.

And he basically said, the biggest one, the biggest promise he's concerned about is this notion of underpopulation and the human race going out with a whimper where we don't have the labor to support our ongoing capabilities.

So it turns out Longevity is critically important to continue to have the labor there as we sort of hit peak in 20 years and then start a rapid decline.

And one last thing is, there was a study done by Oxford and Harvard recently that said, for every year of life we add on the average, the global economy increases by \$38 trillion.

That's the impact of one extra year of healthy life for the world.

So across the average lifespan, okay, wow, that's huge, that's like 30% of the global economy.

Yeah.

And so it's like when you're at the top of your game and you're earning the most and you're able to make the best impacts and you've got the best relationships, rather than hanging up your shingle, what happens if you've got the energy and vitality to not only go but accelerate?

And the question becomes, are these things going to be affordable for everybody? And the kinds of treatments that we're talking about don't cost a lot and definitely will not in the volumes we're speaking of.

Rick Kurzweil tells a great tale, he says, you know, the cell phone came out in the 1980s and back then it was a size of a briefcase.

It cost tens of thousands of dollars and you drop a call every block in Manhattan. Yeah.

I mean, it really sucked.

So, you know, back when it first came out, when it didn't work well, all the wealthy people paid for it and today there are more cell phones on the planet than there are humans and they're cheap and they work extraordinarily well, right?

And it's always been the case that yes, the wealthy will be the first movers to some degree, but by the time the bugs are worked out, it's cheap and available to everybody.

And I do think we're going to see that in the biotech field as well.

No, that's, I've definitely seen that rebuttal to the overpopulation side, right, is like if you actually look at the largest, China is the best example, China is about the half the population it is now by the end of the century is the estimate.

And the final question I had around longevity was what kind of impact does this have on finances for people?

If you're going to live to 60 and you're planning for retirement at 60 and now you're going to live to 120, how much is that going to change kind of the retirement industry, the investment industry, all of those aspects?

Yeah.

That's a great point.

One of the biggest challenges with longevity is that, and this is to everybody who's financial advisors out there is, you know, people typically plan to live till 80 or 90.

And what happens if you're living for another 30 years, what do you do?

Well, and what happens to Medicare or Medicaid, so, you know, Social Security, well, I think one of the things is going to be, and I talk about this and I write about it is we're going to have to move the retirement age if people are healthier longer, right, when Social Security was put in place, retirement age and Social Security was set because that's when on the average you died.

It was like you would like retire and then you would give your bits back to the environment. And as well, you know, we need to realize we need to plan for a longer life, and that's part of this future we're moving into.

I think that's actually the mention you had there about having these assets for much longer and in exchange your emails, you did mention you want to talk about Bitcoin.

So this is an opportunity I wanted to transition into the intersection of Bitcoin and longevity because in your webinar, a much watched webinar with Michael Saylor over the summer, you touched

on the topic of how Bitcoin has become potentially a big part of the longevity equation because of the blockchain infrastructure, it can keep an immutable record.

And if you're living longer, it can hold the store value for a much longer lifespan.

And I believe the point that was brought up by you and Michael was a lot of people don't realize how bad inflation is because they died basically before inflation destroys their wealth.

So I'd love you to jump into longevity and Bitcoin.

Yeah, let's dive into that.

And besides Michael Saylor, by the way, Michael is a fraternity brother of mine from my early years at MIT and we were both space cadets and we lived right next to each other for a number of years.

Brilliant, brilliant guy.

And I'm extraordinarily excited to see the passion and the fervor he brings to his fundamentalist point of view here.

But also on that webinar was another friend, Bill Barhite.

And Bill is the CEO of a great company that I use, Abra, for all of my crypto.

So I don't want to leave him off the conversation there.

And so Michael and Bill and I were talking about the notion that Bitcoin in one way equals abundance.

We're seeing, you know, everybody thinks they're absolutely brilliant because their real estate is going up, because their stocks are going up, because they're, you know, getting all this interest on their assets.

But what they don't realize is, honestly, it's the result of pumping unlimited amounts of capital into the U.S. and the global economy to the point where it's ridiculous where we're devaluing dollars at a rate that people just don't understand.

And so as we're moving, as we're living longer and we're digitizing the global economy, I think Bitcoin is a fundamental cornerstone of a long-lived, lived, exponentially digitized world.

And so, you know, one of the big questions is, you know, how much should you invest in

there?

At what stage in your life?

And you know, everybody I talk to, I say, you know, this is my humble opinion.

I'm not an economist, but I'm moving as much of my cash out of U.S. dollars and into Bitcoin.

And you know, I'm probably 80, 20 Bitcoin in Ethereum.

And you know, when I can get, you know, 4% to 8% interest rates on ABRA for my crypto, rather than sticking it in the bank for, you know, zero interest rates and deflationary pressures, that's insane.

Yeah, that's so for you, especially with how you look, right, you've used the word abundance a lot with Bitcoin and this longevity piece is of all the technologies out there, digital money seems inevitable.

And as you and Michael alluded to, it's like, this is, I could believe called it the apex property of the human race a number of times.

Yeah, it is.

And it's, it's still the early days.

I talk about in my book, Abundance and Bold, I talk about the six D's of exponential.

And just for everybody, when you digitize something, in the early days of that digitization, which is the first D, progress is slow, it's deceptively slow.

You know, if you double like the first Kodak digital camera was  $0.01\ \mathrm{megapixel}$  images.

Next year was 0.02, then 0.04, then 0.08.

It all looked like zero to the executives of Kodak and they ignored the digital camera.

But 30 doublings later, it was a billion times better, right?

And you had 10 megabit cameras and film was dead.

And so when you digitize something, it's slow and deceptive in the beginning, then it's disruptive and it dematerializes, demonetizes and democratizes access to products and services. And so that's exactly what's going on.

You know, Bitcoin is digitized assets and capital and it's been slow and deceptive and it's just now, over the next 10 years, going to enter the disruptive phase and it's going to demonetize and democratize all these areas.

You know, if I were to ask you and maybe Trunga put you on the spot, how old is 3D printing? When was 3D printing discovered?

Oh, I'm just so off on this, but I'm using your 6D framework, you just said, I'm going to assume it started in the 70s, but I only knew about it from like 2010.

Yeah.

So most of us, you know, think, oh, it's 10 years old, no, it really is going on 50 years old now.

Okay.

And in the early days, it was very slow and very deceptive.

And now it's changing everything, right?

The same thing on genome sequencing, the same thing on all of these things.

So, you know, our brains are local and linear, and we think in a local and linear fashion.

And ultimately, you have to realize that, and this is something worth memorizing, you double something 10 times, it's a thousand times better.

Double it 20 times, it's a million times, double it 30 times, it's a billion fold.

And so where are you in that process on that exponential road?

Well, you've, in the blog post you wrote about that webinar you did with Michael, you did write specifically the, you compared internet versus Bitcoin, and you've seen and studied exponential technologies for your entire professional career.

And it looks like Bitcoin is faster than anything else in terms of adoption.

It is.

And there's so much social pressure for that, so much human justice pressure for that, and so much convenience pressure for that, that, you know, as, and it's interesting, right? Because more than ever, you know, Bitcoin really got a lot of its initial launch out of the 2008 crisis.

And crisis tends to cause industries to shift, and new industries to come out of, out of no place.

So, you know, 2008 was a critical time.

You saw Uber and Airbnb and really the early days of cryptocurrency being, being born there. And then the COVID crisis, which led to massive, you know, inflationary pressures as capital flowed into the global economy is accelerating this.

And so I think Bitcoin is more necessary than ever before.

And it's the means by which, I mean, think about it, I like to say that the poorest countries in the world are the sunniest countries in the world.

And therefore they're going to have, you know, a massive amount of solar energy available to them.

I also think the poorest countries in the world are the ones that need Bitcoin the most to allow for a farmer who earns a living to maintain the wealth that they're created as their currencies are massively devalued and to allow them to become part of the global economy.

You know, as Elon said, you know, it's, you can look at Bitcoin as, as trading information and knowledge and work across a fair platform.

Yeah, absolutely.

Elon has spoken a lot about money as basically just information transference, right? All right, I want to take a guick break to talk about Inbound 2021.

It's one of these conferences that I want you to go to this year because two reasons.

Number one, it's free.

So that's always nice.

And number two, they're going to have pretty dope speakers.

So Inbound is a, is a conference that's put on by HubSpot.

It's for any like business person, sales person, customer success, marketing sales, all that good stuff.

And if you haven't heard Darmesh, the co-founder of HubSpot, he was on episode 197, one of our best episodes to date.

And I'm not just saying that to suck up, it was genuinely one of the best episodes.

And you know, he gives his talk at Inbound and there's going to be other speakers like Oprah and Hasan Manaj and David Change, a whole bunch of other cool people.

And this is a free conference.

So if you're like me, you like getting inspiration, you like getting new ideas, you want to grow your network, you want to learn what's happening on the frontier of all these different fields, then I recommend going to this, go to Inbound 2021.

You can find it at inbound.com, inbound, like I-N-B-O-U-N-D, inbound.com and go get a free ticket.

Trust me.

Yeah.

And the question I had then just to kind of tie a bow on a Bitcoin longevity was, and you mentioned, did mention this in the webinars, the idea of, if you are going to live to 140-150, and the example that you brought up in the blog post was, where will you put a million dollars today, if you will be alive 100 years from now and you want that million dollars to be safe and are accessible?

And the answer seems to be Bitcoin.

Well, there's nothing else that I can think of.

I mean, super high value real estate, super high strata various, you know, super high value assets, but if you want something that's got liquidity and transferability, there's just one.

Absolutely.

That's on the Bitcoin side.

Was there anything else that has X-Prize done any crypto related prizes yet?

And if not, is that on the menu?

Oh, it's always on the menu.

And the answer is we will.

And I'm just trying to figure out, you know, what would be the best there.

But you know, we'll, I think the areas around social tokens and identity.

There are some, I think rather than a Bitcoin X-Prize, they're going to be prizes that we're going to launch in which, which, you know, a token economy and cryptocurrencies are the solution that will win those prizes.

That's interesting.

And that gives a great use case and popularizes probably crypto more, which I know is very important to you, properizing these different exponential technologies.

The next one I want to get into a very popular amongst our audience was the space race.

You've been involved for a very long time, big as a very high profile year for space with Blue Origin.

I think Elon's sending a couple of people to space tomorrow, actually, and my friends of mine, some friends, absolutely.

So the first question I had was the Ansari prize was from the mid nineties.

That was the first X-Prize.

It was around sending, I believe, three humans, 100 kilometers into space and back.

That was awarded in 2006, almost 25 years now is space from when you started that prize, where you believe it would foresee it 25 years later.

Are you ahead or are you behind and where do you see it 10 years from now?

Wow.

That's a great question.

So let me give the background.

I was born in the sixties.

I was, you know, Apollo was going on and it was like, Oh my God, this is amazing.

We're going to the stars.

Right.

Apollo showed me what the world could do right now.

And then in the sixties also came out this scientific documentary called Star Trek, which is a joke.

But we just saw the 50th anniversary there about.

And Star Trek showed me where the human race was going in the long term.

And I became enamored with space.

It was everything to me.

My parents wanted me to become a doctor.

My dad was a doctor and that was like, okay, I'll go do that.

But I really want to go become an astronaut in space.

Over the next couple of decades, I got a six pack of degrees.

I got my pilot's license.

I did everything, met a whole bunch of astronauts, then realized my chance of becoming an astronaut

like one in a thousand.

I had a better chance at five, four becoming an NBA All-Star than I did becoming an astronaut. And the challenge was in the, you know, in the eighties and even into the nineties, everything in space was government.

It was all government and the government was not taking risks and it was not flying individuals.

And so in 1994, I get a book from a friend of mine called The Spirit of St. Louis.

It was written by Charles Lindbergh.

And in this book, Lindbergh talks about the fact that in 1927, he flies from New York to Paris to win a \$25,000 prize and they had no idea he was going after a prize.

And as I dug into this prize, I realized this guy Raymond Orteg puts up \$25,000, which is today about five or \$6 million.

And he offers it to anyone who can fly between New York and Paris and Paris and New York. Nine different teams go after it.

They spend 400,000 trying to win the prize, 16 times the prize money and Orteg only play it pays the winner.

You know, I think, oh my God, this is amazing.

You only pay for success and there's no downside.

So I came up with the idea of the X prize and X was going to stand up in the name of the person putting up the \$10 million because I didn't have it at the time.

And what happens is I launch it in 1996 under the Arch in St. Louis without having the money, without having the teams, I just rolled the dice.

And I met Anusha Ansari, who had just sold her company for \$1.3 billion, a fellow space

cadet, and she funded the \$10 million prize and we called it the Ansari X Prize, her honor. And it was won a few years later in 2004 by Bert Rutan, funded by Paul Allen, Richard Branson came in and bought the rights to Spaceship One to build Spaceship Two, which is now going.

I've known Jeff Bezos since the 80s as well.

My first company or organization ever was a group called Students for the Exploration and Development of Space, SEDS, it was a college-based group and I was the national chairman and Jeff

was the president of the Princeton chapter.

And Jeff came out of that, I met Elon back in 2001, just before he was starting SpaceX. When the prize was won in 2004, if you had asked me how long it would take to commercialize suborbital flight, I would have guessed five years at the outmost, six years. It's been 17 years and that's just crazy.

What's even crazier and kudos to Elon, who is off the charts brilliant as an engineer, as a designer and as an entrepreneur, is what he's accomplished, runs circles around the suborbital business because here's the deal, going suborbital gets you to about Mach 3, 3.5, Mach 4, there's a speed to get to 100 kilometers altitude.

Going orbital is Mach 25, so it's about seven times the velocity and for remembering your high school physics, kinetic energy is 1.5 mb squared and so it's a square of the velocity, so it's about 50 times harder to go to orbit than it is on the suborbital flight and what Elon's done with SpaceX and Falcon 9 and now Starship is extraordinary.

I love the fact that two of the wealthiest humans on the planet, their passion is both opening up space, so I have confidence that we're doing it right now, right here, Jeff and Elon are going to pour their billions in and I know that's where their heart fundamentally is to make the human race a multi-planetary species.

So basically it's a little bit slower than you expected, but there's massive progress, it would be kind of a summary on that.

Yeah, I mean it's hit an inflection point of recent, right, I mean Falcon 9 has decimated the pre-existing aerospace industry, right, I remember when Falcon 9 landed its first stage, I said it's a nail in the coffin for the traditional industrial military complex who were flying complete expendable boosters and they're unable to even come a fraction close and when Starship begins becoming operational, it's game over.

The last question I had regarding the space race was, I know the media loves to frame, obviously you talked about how you're doing something in the media space, which might take this kind of make it move, but they love framing Bezos versus Musk, I know they're doing two very different missions, Bezos is more about building a space economy, Elon is very specifically about creating a multi-planetary species, so do you see a competition being an insider in the space or do you see it just more, you know what, they're kind of doing different things and we can all succeed?

So they have two independent visions that I both love, so first and foremost, you know, Elon is enamored with going to Mars, he's agreed to go to the moon first because that's what NASA's mission is and I think that's the logical thing, the moon is sort of a way station, a interim fueling point, the moon has water ice on the poles and has lots

of oxygen in the lunar regolith and Starship can get there easily, but you know, Elon's vision is wanting to build Starships to go and bring human and supplies to Mars and really colonize Mars for the long term and build, you know, Starbase 1 on the Martian surface and that's awesome, I wish him all the luck and I remember walking into his office one day and he was kind of depressed about what was going on, I said, I just realized, you know, Falcon is not going to get us to Mars and I need to re-engineer what we're doing, like from the ground up and that's what Starship came out of, you know, Jeff was at Princeton and one of my mentors was there, a guy named Gerard K. O'Neill and Gerard K. O'Neill ran the Space Studies Institute and he wrote about and talked about that if you can mine the moon for resources and mine the asteroids for resources, you can build what have now been called O'Neill colonies and these are large cylinders, imagine like a kilometer in diameter and these cylinders, when they rotate and they're capped at the end, you could live on the inside of that and so the idea was these million person population cylinders that were in free space, meaning they were not on a planetary surface that had gravity, they weren't on Earth or the moon or Mars, they were co-orbiting the sun with the Earth and you would set up a civilization there and when that civilization grew to a million people and it hit its population limits, you'd build another one and like a bacterium, it would split and eventually this would be how the human race would expand and we would, you know, the vision is move all of the heavy industries off the planet into space and keep Earth, I think Jeff described it as a zone for a light industrial and that's a very cool and they're both valid and what we need is to really make space economically independent of the Earth and everything we hold the value on Earth, metals, minerals, energy, real estate are near infinite quantities in space and consequently I think we will get there. And so just to summarize, they both do have very different missions and you're just happy they're both attacking it in their own way.

They both have very different missions and they're both very valid missions and because they both have the wealth to really fuel this and do it, it's going to happen, right? We're not going to see this happening from governments.

Governments will support, governments will be involved, they'll get contracts and so forth but it's only the fact that Elon was able to like fuel SpaceX in the early days with his first hundred and twenty million dollars that got it to where it is and yeah from PayPal sale and Bezos is committed a billion dollars a year, probably more now that he's retired from Amazon and I truly hope he'll take on the mantle as CEO of Blue Origin, this company to really have it succeed as well as Amazon has. Right, absolutely.

So we'll move on to the last section here which will also touch on more Bezos and Musk but it's a more broader question that we kind of discussed via our emails.

You dealt with so many and interacted with so many high performers whether that be Elon Musk, Jeff Bezos, Tony Robbins, Larry Page, Ariana Huffington.

An important thing you've mentioned in the past is, I believe you said mindset is might be the most important variable as a key to success so I'd like you to discuss, I'd love for you to discuss the different mindsets that you've touched on. Happily.

So here's my question, right, if you think about the most successful entrepreneurs in the world, Anushan Starry, Steve Jobs, Elon, Jeff, Mohamed Yunus, whoever it might be, what do you think was the most important asset they had?

Was it their money?

Was it the technology they had or was it their mindset?

And I would posit that if you took away all their money and all their technology but you kept their mindset that they would regain a tremendous amount of their success or have the highest probability.

And so one of the things I realized is very few of us actively shape our mindset saying, you know, I want more of a mindset like this or more of a mindset like that.

We just sort of our mindset gets adopted from your conversations with your friends, your mom and your dad, where you grew up, right?

I mean, just think about it, have you taken the time to shape your mindset?

What mindset do you want?

So I started realizing this as important because I had adopted an abundance mindset, an exponential mindset, a longevity mindset and a moonshot mindset.

And I realized I got those mindsets from my work with X Prize and my work in my books I wrote and my work with Singularity University and Abundance 360.

So a few years back, I run this Abundance 360 year round executive program, mastermind program for these 400 CEOs.

And I said, you know, the most important thing I delivered to them is mindsets.

So I started teaching and crafting around these four mindsets.

And one of the things that you'll appreciate Trung is the whole world of neural nets, right?

As we're training in neural net to learn to recognize faces or cats or dogs, whatever.

The way you train that neural net in the AI world is you show it example after example after example and it shapes neural net, right?

So your brain is a neural net too.

And we're passively training our neural nets of our brain.

And when you're watching CNN or Fox News, right, what I call the crisis news network or the constantly negative news, you're training your brain to be in a constant state of siege. It's like murder, murder, murder, shooting, bribery, impeachment, murder, murder, shooting.

You know, that's, it's it.

It's like, do you really want to train your neural net to be sensitive to and focused on all this negative news?

What if you trained your brain on all the incredible breakthroughs going on in the world? So you start to see the world from an abundance and exponential, a moonshot and a longevity mindset.

And so that's what I started doing and there's some great videos on the Abundance360 website. If you go there, just a360.com and you can learn more about these mindsets.

And so every year and throughout the year, I will come and say, okay, I'm going to show you all of the breakthroughs going on in longevity space and why you would be a fool not to believe you're going to add 10 or 20 healthy years of your life and what are you going to do

about it?

And change the money you're saving, the companies you're starting, what you're going to be doing. And so my mission is show evidence after evidence after evidence after evidence that this incredible longevity escape velocity is coming our way.

And so I do that as well in exponential tech and in an abundance mindset.

So I think everybody knows when exponential mindset is that you realize that, that the world is changing at a accelerating rate and that things are not linear, which is the way our brains think.

And abundance mindset is the implications of that.

So in a scarcity world and our brains evolved in a very scarce world in the savannas of Africa, you know, you would fight over food.

In a scarcity mindset, if you've got one pie and more people come over, you have to slice the pie into thinner and thinner slices.

In an abundance mindset, you say, bullshit, we're going to bake more pies, right? And so technology is letting us bake more pies.

So a great example is energy.

We used to kill whales on the ocean to get oil to light our nights to read.

Then we ravaged mountain sides for coal.

Then we drilled kilometers under the ocean floor for oil, but we're living on a planet with 8,000 times more energy from the sun than we consume as a species.

And so energy is truly abundant, right?

And it was just a breakthrough a few weeks back from MIT and the fusion world.

So we're heading towards a squanderable abundance of energy.

And so almost any of Maslow's hierarchy of needs are becoming more and more abundant.

And if you have an abundance mindset, you're excited about the future, you're not fearful of it, right?

If you miss an opportunity, you realize, okay, next year we're going to have 5x or 10x more opportunities.

One last example there is people think of access to capital as being scarce.

But every year, for the last 20 years, we have hit an all-time high in the amount of capital being invested year on year on year.

So in 2020, during the pandemic, it was an all-time high in global investments and venture capital investments.

And during the pandemic, I mean, it's like, oh my God, this is unstoppable.

So just to summarize, abundance, exponential, longevity, and moonshot mindset, right? These are kind of the frames that you use.

Yeah.

And moonshots, simple, yeah.

No, sorry.

The question, I didn't mean to cut you off there, Peter, I just had a very specific question.

Yeah.

Going back to the linear versus exponential, how do you train yourself to make that leap?

Is it you expose yourself to these, you mentioned, do you go to new media sources?

You mentioned Future Loop at the beginning of our conversation.

So first of all, you can't rewire your brain to go from linear to exponential.

What you can do is update yourself on a regular basis about this is now possible, this is now possible, right?

So that when you update in the fields of exponential technologies, computation, sensors, networks,

AI, robotics, 3D printing, synthetic biology, augmented virtual reality, blockchain.

The thing that I do on a constant basis is I'm updating myself in all of those fields.

And like, this is what you can do now.

Here's the cost, here's the capability who's providing it in all of these areas because

I write about it, I teach about it, and I incorporate it into my companies.

And one of the things I realized is the news does me a disservice, right?

We talked about Crisis News Network and all.

So I said, you know, it's not like the news they're providing isn't true.

It's just not a balanced view of all the amazing things going out there in the world.

And I said, what if I can create an algorithm that would search the world's tweets, articles, journal publications for news that had the following attributes.

It was a positive incentive, a positive framing.

It was future forward.

It was looking for places where converging exponential technologies were reinventing fields.

And then it presented to me that information every day.

And I built it with some incredibly talented partners in machine learning space.

It's called Futureloop, it's futureloop.com, it's free, you can go, you sign up.

And every day I get 12 to 15 articles that are in the fields I'm excited about.

And these are the breakthroughs.

This is what's going on.

One of the things that we did in Futureloop was we created a digital avatar of me in neural net ingesting all of my books, all of my tweets, and it thinks like I think.

And so it's called Virtual Peter, and Virtual Peter is part of the filtering for all of these articles.

And so I'll get four or five recommendations from Virtual Peter that I should read and they're always spot on.

And then in categories like transportation and health and AI and manufacturing and so forth, here's the breaking most important positive news in these areas.

And it helps me shape my neural net.

And it helps me think more exponentially because it updates me every day, and it's a fun, quick read.

No, that's perfect.

So Futureloop, it's free, everybody can check it out.

I'll probably sign up for the Peter package.

So Peter, the last things I just want to ask here is super quick rapid fire work.

If you could identify a superpower from some of the individuals that you've worked with,

I don't want to put you too much on the spot.

It could be anything, but I'll rattle off some names.

So what is the superpower for Elon Musk?

First principle thinking, if you can look at a system and say from first principles,

this should be possible, which is how he reinvented the electric car industry, looking at what batteries could be, what they could cost.

And the launch industry is saying it should be possible to do this and then doing it.

Yeah.

All right.

First principles.

Thank you for Elon.

Jeff Bezos.

Jeff, I would say it's building an organization that was data-driven and experimentalist.

If I describe Amazon, it's a data-driven experimentalist company, it's running thousands of experiments, looking at the data, reinventing the algorithms.

He wrote a very simple and he's very fundamental in thinking as well.

Amazon's business plan is three short lines, give people more variety, cheaper, faster.

That's it.

Anything falls into that, he does it.

And he'll do it.

Okay.

Beautiful.

Tony Robbins, your good friend.

What is Tony's superpower?

Tony's superpower is passion and conviction and the ability to cut through a lot of the sort of human bullshit and get you to see what is truly driving you, what are your true motivations and then how you can hack those.

Perfect.

Three more.

Super quick.

Larry Page.

Wow.

Larry Page, again, I had the pleasure to get to know him over the course of a decade.

He was on my board at the X Prize.

It was science, really just brilliant and like Elon, the first principal thinker and just very hardcore on the science and engineering, absolute clarity.

Ariana Huffington, who I believe is also on the board.

Yeah.

Ariana is an incredibly amazing woman.

For her, I say it's passion as well.

She comes at everything with a 360 degree of passion and she's a very strong business woman.

Everything she's done has been extremely successful.

She builds a great team is another thing she does, building her team and bringing passion to it.

Amazing.

The last one is Richard Branson.

Wow.

Richard, first, it's charm.

He is one of the most charming men on the planet and he just uses that to bring you in. Then it's how he deals with risk.

When he sold Virgin Records and created Virgin Atlantic Airlines and people said, you're insane to start an airline, when he bought his first 747 from Boeing, he reduced the risk substantially by getting them to agree that they would buy back the airplane a year from now at the same price if the business wasn't.

That just reduces risk massively.

When he started Virgin Galactic and he committed for \$700 million to develop Spaceship 2, he went to Abu Dhabi in the Emirates and sold a very large segment of Virgin Galactic for like \$700 million.

He basically offset all of his cost he needed to develop it to an investment from somebody else.

He deals with risk extremely well and reduces the risk on his adventuresome deals.

The popular image of Richard as a swashbuckling pirate, people aren't seeing that he's going into these deals and he's just very pragmatic, de-risking yet, but also with huge moonshot ideas.

Yeah, he does.

I would say for Richard, he has an amazing team.

He builds Virgin Management team and he is an adventurous man.

He also lives and breathes passion and vision.

He's been a fellow space cadet probably as long as I have.

Yeah, absolutely.

My final question for you outside of the Superpowers is you take on so many projects.

One of Peter's laws is multiple projects at one time.

I know a lot of people are very different where they only want to focus on one thing.

How would you tell an entrepreneur or investor or a young individual starting that your path potentially might be what's good for them versus somebody that just does one thing and does it very well?

Yeah.

So as I say, not as I do, I do believe that doing one thing extraordinarily well will give you the best return.

So what I teach entrepreneurs is first and foremost, you have to find your massive transformative purpose.

What is it that that emotional energy that's going to fuel you and keep you going? Because don't do something for the money.

Don't do it because your mom, dad, brother, sister, best friend told you to do it.

Do it because it's what's in your heart, your soul.

And you can find that focus on that and sometimes it's a 10-year journey before you succeed. I did have single-minded focuses when I was running SEDS or I had two focuses during medical school, maybe three anyway.

But today, the way I do what I do is I hire an amazing CEO who's just focused on the business. And I serve typically as chairman or vice chairman of the companies and I'm driven by my passion. I do what I love.

That's the only thing I do because if I love it, I care about it enough and I give it everything I have.

But there's no question that some of the most successful people in the world have done one thing extraordinarily well.

I remember getting a call from Elon one day saying, Peter, I need to step off the X-Price board because I'm going to focus on SpaceX and Tesla and I wish I could find a CEO for Tesla so I could focus on SpaceX.

And I said, I totally respect that.

I understand.

Of course, he stepped off and he was just on SpaceX and Tesla.

He owns no other investment, some Bitcoin.

But he ended up getting into Neuralink and the boring corporation and a few other things later because when you're an entrepreneur, you love creating stuff.

So just to answer, definitely, if you can do one thing well, definitely do it, but it might take you a long time to get there, which is why you might want to try multiple things early on.

Yeah.

And my Peter's Laws, I wrote, if something can go wrong, fix it to hell with Murphy. It's my first law.

it s my mist av

Yeah.

That's law number one.

Do it by the book.

Do it by the book.

Do the author.

Yeah.

Absolutely.

So, Peter, where would you like people to send them?

I know you have a blog at DMandis.com, that's probably the best place.

So yeah, DMandis.com, if you want to get my three blogs a week, if you're interested in my Abundance 360 year-round executive program, Mastermind, it's abundance 360.com.

Futureloop.com, XPRIZE, if you want to see what we're up to at XPRIZE.

I'm working on a \$100 million age reversal prize.

We just launched a \$100 million gigaton carbon removal prize with Elon.

We're in the middle of the competition of an avatar XPRIZE for robotic avatars, a lot of cool stuff going on at XPRIZE.org.

Okay.

Fantastic.

XPRIZE.org and at DMandis.com, two places.

Thank you so much, Peter, the hustle audience, appreciate your time.

My pleasure.

Thank you.

Awesome.

Thanks, Peter.

That was amazing.

Yeah.

Thank you.

I feel like I could rule the world.

I know I could be what I want to I put my all in it like the days on the road.

Let's travel.

Have a look in backlight