**SAM ALTMAN**: You know, the two strategies to succeed in life are you either go super deep in one field of knowledge, or you go extremely broad.  And I've always been going extremely broad and find the connections, and sort of be good at the intersection.

[MUSIC]

**KEVIN SCOTT:** Hi, everyone. Welcome to Behind the Tech. I'm your host, Kevin Scott, Chief Technology Officer for Microsoft.

In this podcast, we're going to get behind the tech. We'll talk with some of the people who have made our modern tech world possible and understand what motivated them to create what they did. So, join me to maybe learn a little bit about the history of computing and get a few behind-the-scenes insights into what's happening today. Stick around.

**KEVIN SCOTT:** Hello, and welcome to Behind the Tech.

**CHRISTINA WARREN:** I'm Christina Warren, Senior Cloud Advocate at Microsoft.

**KEVIN SCOTT:** And I’m Kevin Scott. Today, our guest is Sam Altman. Sam is an entrepreneur, an investor. Sam was for a while the president of Y Combinator, which is the most successful startup incubator-- I think without argument in the entire world. And recently, Sam became the Chief Executive Office of an organization called OpenAI that is seeking to build general artificial intelligence inside of a nonprofit structure so that the value that AGI creates accrues to the public good.

**CHRISTINA WARREN:** Yeah, that's right, and this is one of the rare times where we have a guest on that I actually know, that I actually have known before he was Sam Altman.

**KEVIN SCOTT:** Yeah, so fantastic. Tell us a little bit about that. I didn't know that.

**CHRISTINA WARREN:** Yeah. So, when Sam was doing Loopt, his first startup, I was a reporter at Mashable, and I used to cover startups all the time. And Loopt was actually one of my favorites, not so much because I thought that what they were doing was the most revolutionary thing in the world, but because Sam was so incredibly smart. He was always three or four steps ahead of what the whole industry was doing.

And although that ended up not necessarily working out in Loopt's favor, I actually remember I sent him an e-mail when Loopt made its exit, that said, you know, you might not love what's happening now but I have no doubt that whatever you go on to do in the future, you're going to be amazing. And that's -- I'm going to be honest, that's probably the only time I've ever sent an e-mail like that.

**KEVIN SCOTT:** I mean, and it's really true. Sam is a super, super impressive guy. Like not just in the sense that he's like really bright, but that he's very determined to like make big things happen, and in a whole bunch of ways. Like Loopt was an interesting company in that it was like sort of ahead of its time.

**CHRISTINA WARREN:** It was. It was doing the location-based thing before the Foursquares and the Gowallas and Facebook, you know, were a thing.

**KEVIN SCOTT:** And a lot of the stuff that he was imagining like now has become just sort of a standard feature set that any modern mobile application is more or less built on top of. So, like he predicted like this whole big thing that was happening. It was just like timing was like less than great.

**CHRISTINA WARREN:** Well, that was the whole thing. Every time I would get on the phone with him or we'd meet in person and I would talk, I would just walk away and think, this is the most impressive founder I've ever met. And so, although, you know, he's been successful beyond what I ever could have expected, I also have to say I'm not in the slightest surprised.

**KEVIN SCOTT:** Yeah, no. I mean some of the stuff that he has been doing with entrepreneurship and like trying to help like really smart and motivated entrepreneurs like find their way to having impact like has been amazing. And the stuff that he's doing right now with -- with OpenAI, again like getting a bunch of like very, very bright individuals sort of rallied around this like very interesting cause, like also super impressive.

**CHRISTINA WARREN:** Well, I can't wait to hear what he's up to and to hear your conversation.

**KEVIN SCOTT:** Yeah, I'm excited to chat with Sam. So, let's do it.

[MUSIC]

**KEVIN SCOTT:** So next up, we'll meet with Sam Altman. Sam is an entrepreneurial prodigy. I believe he started his first company when he was 19 years old, and, like, that was where you and I first met. Since then, you have gone on become an enormously successful investor, President of Y Combinator through one of its most interesting runs in its history.

And most recently, you've become CEO of OpenAI, which, you know, like obviously we just did a partnership with you all, but, like, that partnership notwithstanding, like, OpenAI is unquestionably doing some of the most interesting things in contemporary artificial intelligence. So, welcome to the show.

**SAM ALTMAN:** Thanks very much.

**KEVIN SCOTT:** So, I think we met the first time when you were -- when you were at Loopt.

**SAM ALTMAN:** Yeah.

**KEVIN SCOTT:** Like, I was actually doing -- like, I was Head of Engineering at another mobile startup at the same time. And that was sort of an interesting, like, crazy time. Like, one of those things where you sort of -- I guess both of us, in, like, in our own way, were like experiencing the explosion of a brand new platform and ecosystem. And so, you did that for eight years. And then, you took this year off.

**SAM ALTMAN:** Yeah.

**KEVIN SCOTT:** And then…

**SAM ALTMAN:** And then, I took over YC.

**KEVIN SCOTT:** Yeah. So, you -- you went to Stanford.

**SAM ALTMAN:** Yeah.

**KEVIN SCOTT:** And what did you choose to major in there?

**SAM ALTMAN:** Computer science. I actually took mostly non-computer science classes, which at the time sort of felt indulgent. And looking backwards, that was all the super valuable stuff. So the time that I spent, like, taking writing classes, or studying history, or particularly studying science, like hard science, didn't have a big impact sort of for the next 10 years, but after that, those were all the most valuable classes. I was going to learn to program no matter what, and I was going to be good at it no matter what.

**KEVIN SCOTT:** And you were -- how good a programmer were you by the time you got to Stanford? Like, were the programming assignments were easy, hard?

**SAM ALTMAN:** Easy. The first -- freshmen year was easy, and then it got hard.

**KEVIN SCOTT:** Okay. You know as you're thinking about how we educate our kids, like, that's a great luxury to, like, have. By the time you get to college, you've already got a reasonably good skill, and then you can sort of do this exploration. Like, that's a -- that's an incredibly beneficial thing.

**SAM ALTMAN:** Yeah. Like, I -- I'm sure you do, too -- like, I think the education system in general is just not nearly ambitious enough. But I think, like, I was incredibly lucky to go to an amazing high school, and I learned a lot of the sort of basic skills and knowledge. Certainly, I had learned how to learn. And so, by the time I got to college, I could just pursue stuff. I didn't have to, like, think really hard about just making sure I got everything done for my major. I'd already done a lot of that.

**KEVIN SCOTT:** So how did you get started in tech?

**SAM ALTMAN:** There was this period of time that I was sort of born smack in the middle of, of like kids who hit the computer revolution exactly right where, like, the computer started easy enough to work with where we could, like, figure it out on our own. And then, they like kind of got powerful at the right time for us.

**KEVIN SCOTT:** Yup.

**SAM ALTMAN:** But I was born at a very lucky time for that.

**KEVIN SCOTT:** Yeah.

**SAM ALTMAN:** And a lot of -- a lot of people who have, like, gone on to sort of start important companies or be technology investors were born in this like relatively short window, it seems like.

**KEVIN SCOTT:** Yeah. I mean, I say this a lot. Like, I feel the same thing. So, I got lucky to be an 11-year-old like right when the personal computing boom was taking off, like right when the personal computer started showing up, hooked up to a little 13-inch --

**SAM ALTMAN:** Totally.

**KEVIN SCOTT:** TV's in department stores. Like, that was -- that was when I was developing as a little human being.

**SAM ALTMAN:** A very interesting question is what are the sort of seven to 12 year olds now, like what is that technological revolution going to be that they're going to grow up with?

**KEVIN SCOTT:** And it's super -- like, I've got a -- like, I have a nine-year-old and an 11-year-old right now, and --

**SAM ALTMAN:** So, do you have a guess? Do you have a guess, then, what it'll be?

**KEVIN SCOTT:** I don't know. It, it's really hard to say. And I don't know whether -- I don't know whether I would have had a guess back then when I was right in the middle of it.

**SAM ALTMAN:** Right. I certainly would not have.

**KEVIN SCOTT:** I think it's sort of hard to tell. I know that their expectations are fundamentally different than mine were. So like, they expect a world where you can talk to computers and where you touch them, and like, they don't understand like people programming content for you that you -- that you sort of have to consume, based on their sort of abstract understanding of your preferences. Like, they -- they just sort of watch what they want and read what they want whenever they want. I mean, it's very, very different than we were when we were little kids.

**SAM ALTMAN:** For sure.

**KEVIN SCOTT:** But like, I don't know what the technology thing is that -- that's going to captivate their interest.

**SAM ALTMAN:** One of the things that was magic about computers is that you could go very far in terms of what you can do with them, but you could start easily as a kid. Like, maybe synthetic bio is going to be the thing, but like we're not going to have, like, seven year olds playing in the lab, making new organisms, I don't think. Maybe we will.

**KEVIN SCOTT:** Yeah, I don't know. And like --

**SAM ALTMAN:** But computers were just easy to start with, which was a (crosstalk/inaudible).

**KEVIN SCOTT:** Yeah, synthetic bio, like you would sort of hope that that would be a thing because, like the benefit to humanity if you could have a whole generation who were as, you know, sort of enthused by that as we were with computers, like I think that would be beneficial. And you know, maybe -- maybe if you can get a bunch of that stuff in a simulation environment where the cost of doing an experiment wasn't so high? But like, I think --

**SAM ALTMAN:** Yeah, something like that.

**KEVIN SCOTT:** I think it has to be something. I mean, like, your point about the ease of use --

**SAM ALTMAN:** It would be -- it's always something. It's always something. It always starts looking kind of like a toy, and kind of just keeps going.

**KEVIN SCOTT:** Yeah. So, I don't know what it is right now, which is, I think, a curious -- a curious thing. I know --

**SAM ALTMAN:** As you said, we didn't know what it was when it was the computers in the first place. (Crosstalk/inaudible.)

**KEVIN SCOTT:** Yeah. Well, what I'm -- yeah, I certainly didn't. And I'm confident what is going to happen is that they're going to be the ones who figure it out.

**SAM ALTMAN:** Yeah, for sure.

**KEVIN SCOTT:**  And so, you -- you took all of this, like amazing -- I mean, like you -- it almost sounds like a liberal education, in a way.

**SAM ALTMAN:** I think, you know, the two strategies to succeed in life are you either go super deep in one field of knowledge, or you go extremely broad. And I've always been going extremely broad and find the connections, and sort of be good at the intersection.

**KEVIN SCOTT:** So, what was the -- what was the most interesting non-computer science thing you took when you were at Stanford?

**SAM ALTMAN:** Like, the most intellectually satisfying thing ever is, like, physics. But I think the surprisingly most relevant one was creative writing.

**KEVIN SCOTT:** Yup. And so, what --

**SAM ALTMAN:** There's like nothing that's more fun than a great physics class, right? That's just the most intellectually stimulating. But --

**KEVIN SCOTT:** What was your favorite physics class?

**SAM ALTMAN:** Ooh. Well, I'll answer my favorite physics book, but it's related to my favorite physics class. *Quantum Electrodynamics* I think is the best science book ever written.

**KEVIN SCOTT:** And this is Murray Gell-Mann's book?

**SAM ALTMAN:** Richard Feynman.

**KEVIN SCOTT:** Okay.

**SAM ALTMAN:** And it's like a series of four lectures. But everyone always, like, wants to focus on the parts of physics we don't perfectly understand, and then there's like, a few areas where they're incredibly beautiful and we clearly -- like, we don't understand what's happening like in an easily modellable level, but the math we understand perfectly.

And that was this example. And there was a class I took that was basically teaching this, of like, wow, like there's this, like, big piece of reality that we actually just perfectly understand, or we understand well enough to work with and model in. And you know, it's amazing.

**KEVIN SCOTT:** Yeah, and so, quantum electrodynamics, just for the -- for the audience (laughter) who is also pretty broad -- so this is the -- this is the study of the very, very small scale interactions of --

**SAM ALTMAN:** Basically everything but gravity.

**KEVIN SCOTT:** Yeah.

**SAM ALTMAN:** But all of the other forces between particles.

**KEVIN SCOTT:** Yeah. Yeah, it is -- it is fascinating stuff.

**SAM ALTMAN:** I highly recommend the book. It's a short read. There's no math in it. It's really fun.

**KEVIN SCOTT:** So why not become a physicist?

**SAM ALTMAN:** Well, physics has been a bad field to go into as a career for a long time now. And I remember, there was this thing where all of the kids that were studying physics in Stanford ended up going to work in, like, finance, which I almost briefly got tempted into doing too. I actually accepted an offer to an intern, and then I realized I really didn't want to do that. But there was, like, clearly something wrong with physics as a career path the time I was there. Maybe it's better now.

**KEVIN SCOTT:** Just in the sense that it was going to be hard to get a job.

**SAM ALTMAN:** All the really smart physics kids weren't going to do physics after they graduated.

**KEVIN SCOTT:** Gotcha.

**SAM ALTMAN:** And that was like -- and all the smart computer science kids were going to do computer -- some sort of programming. And so, it was like I think maybe physics just, like, got too hard, or the problems got too trivial, or something. But it's like very -- it was very hard to see what I was going to do. I still studied out of interest, but it was like I could sort of sense at the time it was not the right career trajectory.

**KEVIN SCOTT:** And so, let's talk about this creative writing thing. Like, in what ways is that useful to you now, because I actually agree with your assertion that it's fabulously useful.

**SAM ALTMAN:** Well, when I was at YC, certainly the highest leverage on time thing I could ever do was write startup advice. The not-secret secret to YC is that we started because PG is incredibly at writing essays and was able to sort of create a brand and a community, and a nexus just from his essays. No one else will be as good at writing as PG, but I was over the bar where I was able to continue that. Like, I was well aware it was worse, but it was good enough to, like, keep the funnel going.

**KEVIN SCOTT:** Yup.

**SAM ALTMAN:** And you know, like, you can write something in a couple of hours and get hundreds of thousands of people to read it. And many of them come apply to YC, or later do, or come work at a YC company. And so, that was like -- like one of the important jobs, I think, of the person running YC is to be able to write reasonably well about startups.

**KEVIN SCOTT:** And was -- was it important as CEO of Loopt, or --

**SAM ALTMAN:** No, no at all.

**KEVIN SCOTT:** Not at all.

**SAM ALTMAN:** Yeah. So again, there were all these, like, things that I -- that I studied at college that didn't -- then I, like, went heads down on one project for like eight years -- seven years, whatever it was -- and they kind of were -- just sat in the back, but then, later, like came to be super valuable.

So, one of the things I did after Loopt, I ran it for like, yeah, seven or eight years. And then, one of the best decisions I made and a thing that I think a lot of people could do and don't is I took an entire year off. And like most people who are -- it's an incredibly luxury, but most people who have worked as an engineer in the tech industry for a number of years and don't have -- you know, are young enough or free enough, they don't have familial obligations, they could save up and do this.

Like, my cost of living -- because I was, like, living in hostels in cheap parts of the world -- was like a tiny fraction of the rent of a San Francisco apartment. And I, like, just studied stuff I was interested in. I read, like, stacks and stacks of textbooks. I talked to people that we were working on problems that I was interested in, and it was the time I came back to AI, finally, because that happened to be here AI started to work. Deep learning started to work.

I got really into nuclear energy and ended up becoming the chairman of two nuclear energy companies that year that are now doing super well, and a whole bunch of other areas that I pursued that then became important investment areas for YC. But they started because I had some -- enough background knowledge from college to be conversant in stuff like biology. And then, they kind of bloomed because I had this year to just, like, really follow the things I was interested in without the press of a job.

**KEVIN SCOTT:** And let's talk a little bit about this, like, talking to people who are working on the things that you're interested in because Nathan Myhrvold, who was Microsoft's first CTO --

**SAM ALTMAN:** I love that man.

**KEVIN SCOTT:** Yeah, he is -- he's a super interesting cat. Like, he -- he was Stephen Hawking's post-doc, I think, for a while.

**SAM ALTMAN:** Yup.

**KEVIN SCOTT:** Also, like, you know, sort of his training was in -- in physics and math. He's like a very good archaeologist. He's -- you know, like he wrote these Modernist Cuisine books about cooking. Like, he's -- was on a world champion -- I mean, so he's like -- he's also very, very broad. And if you talk to him, like, one of the things that he says is sort of a superpower is, like, you can sort of read the books, and then, but like, being able to go talk to the people who are doing the work, and having enough of a foundation where you can engage in a conversation with them is, like, incredibly powerful.

**SAM ALTMAN:** Yeah, that has certainly the thing that has worked for me. I -- I do learn pretty well by reading, but I learn much better by, like, talking to the experts. And, and one of the, like, big secrets of life -- this is not a small one -- is if you're kind of like around the edges, like the interesting work is usually happening in sort of, like, at the edges of where everyone's paying attention. And so, those people, like, are not usually the ones who are so busy they won't respond to your e-mail.

So, I have almost always found -- even at the time when I was completely unknown to anyone -- that if you just, like, send a thoughtful e-mail that shows you're serious and have done some work to somebody working at the edge of some field on something interesting, they will probably meet you.

**KEVIN SCOTT:** Yup.

**SAM ALTMAN:** And I was just like, I had no obligations. So, I would just, like -- if someone said, "Sure, I can talk to you tomorrow," and they were in London, I would say, "Okay, but I'll come meet you in person." And I would just, like, go to the airport. And that was great.

**KEVIN SCOTT:** And one of the things I've noticed that stops people from doing that, beyond it being, like, actual hard work to write the thoughtful e-mail, is just getting up the courage to do it and, like, being worried about your own ego, because you are thrusting yourself into a situation where you're not going to be nearly as expert at this thing as someone else, and like, you could be embarrassed by some gap in your knowledge, which is --

**SAM ALTMAN:** Everyone gets over that in their own way. This is one of the advantages of starting a startup at a young age, is you, like, really get good at dealing with a lot of rejection. A lot.

**KEVIN SCOTT:** (Laughter.) Yeah, sort of a humility engine.

**SAM ALTMAN:** It really is just beaten into you, quickly. So, I'm thankful for that, but I got that dispatched quickly. The biggest problem with being afraid of having your ego bruised, by the way, is that it makes you -- it makes it hard for other people to give you feedback. This is a thing that I was horrific at, at the beginning of my career, is like, if anyone told me I was any -- doing anything other than a great job, I would just completely shut down and -- because I took it as, like, an ego bruise.

And the most important professional skill that I've learned the hard way -- and I wish I had learned it earlier -- was being willing to take very hard feedback and not just shut down when hearing it. And that's -- that's relevant to a whole bunch of other stuff, like being willing to e-mail and someone saying, "I'm not going to meet you." But that's even a harder version of it. And once you can get over that, none of the rest of the rejection stings that bad.

**KEVIN SCOTT:** Yeah. It's super interesting.

**KEVIN SCOTT:** You -- you're at Stanford for, what, two years?

**SAM ALTMAN:** Two years.

**KEVIN SCOTT:** And then you, like, how -- how do you decide to go start a company?

**SAM ALTMAN:** I had been hacking on this program as, like, a side project. I was sort of very into mobile phones.

**KEVIN SCOTT:** And this is before iPhone, right?

**SAM ALTMAN:** Way before.

**KEVIN SCOTT:** Yeah.

**SAM ALTMAN:** Yeah, three years before. I had a Palm Treo at the time, to date it, and --

**KEVIN SCOTT:** Which was a good device.

**SAM ALTMAN:** Yeah, and I was really cool for having one, let me tell you, because most people had flip phones. (Laughter.) I had a Treo 650 on Sprint. It was like that -- that was, like, a big deal.

**KEVIN SCOTT:** Yeah. I had one, too. (Laughter.)

**SAM ALTMAN:** It was a good phone.

**KEVIN SCOTT:** Yeah. I wasn't cool, but like, I had one. (Laughter.)

**SAM ALTMAN:** You know, I probably wasn't cool either, but I felt like -- in my heart, I felt cool. Anyway, so I started, like, hacking on this with some friends. I had accepted this offer to go be an intern at a bank in New York, and I was -- I knew it was a mistake as soon as I had said yes.

And then, I had, like, followed Paul Graham online for some time, and he announced this thing called the Summer Founders Program, which is what became -- it was a -- it was going to be a program of YC, and then it became all of YC.

**KEVIN SCOTT:** And this is when it was in Boston, right?

**SAM ALTMAN:** In Boston, yeah. And so, I sort of applied with, like, an hour to go. And still planned to go back to school at the end of the summer, but I was just like, well, I'll work on this. They're going to give us $12,000. And we got in, and did it, and then it just kept going.

**KEVIN SCOTT:** Yup. And so, what were some of the interesting things you learned through that experience, which is sort of a broad question because you were super early?

**SAM ALTMAN:** Yeah. The -- so, I always think it's like -- it didn't -- that company did not go nearly as well as we were hoping. It went fine, and I'm grateful for it and thankful it gave me enough sort of money to do everything else. But it was not the outcome we were hoping for. And I always think it's tempting to learn too much from failure and it's better to learn from success.

But one of the things that we did learn -- one of the things that was fun at the time -- is we -- like the collective tech industry -- had not quite figured out startups. Like, at this point, they're kind of well-understood, and like, there's a playbook and you can follow it. And you can, like, pick an enterprise vertical and, like, build some software, and build a sales team, and like, wash, rinse, repeat. And at the time, like, none of this stuff was canon.

And so, the thing that was fun was all of us together, like -- a lot of the people I went through YC with, or went through shortly after, like super close friends, people that I work with, invest with, still, all the time, and all of us, like, figuring out together, like, how to make startups work, at scale, like how to figure out how to mass produce startups, like, that felt like the frontier. And that was really fun.

**KEVIN SCOTT:** What -- so, this is sort of interesting. Like, I totally agree with you, and like, you obviously know better than I do, but like, it seems that the playbook for doing startups is a lot clearer now than it was like 10 or 15 years ago. But like, there's -- it strikes me that there's still some flavors of startups that we don't know how to do, or maybe we've forgotten how to do.

**SAM ALTMAN:** We don't know how to do hard tech startups that well. This was one of my areas of passion at YC, the thing that directly led to OpenAI. That is still a frontier, and that had always been pulling me.

**KEVIN SCOTT:** Yeah. And what do you mean by hard tech?

**SAM ALTMAN:** Like, rockets, nuclear fusion, AGI, stuff like that.

**KEVIN SCOTT:** Yeah. And so, like, there are --

**SAM ALTMAN:** Stuff where the risk is science risk more than it is market or engineering risk.

**KEVIN SCOTT:** And -- and capital intensive.

**SAM ALTMAN:** And capital intensive. By the way, I think there is a magic moment for it because, although this stuff is very capital intensive, so much money has fled into venture in the last 10 years that -- and I think software startups were unusual in the returns that they offered, but so much money. It was like, "Wow, these are incredible returns," that there's now this huge overhang of capital desperate to find good opportunities and willing to accept lower returns, which to be perfect honest, the hard tech startups sometimes are, at least higher risk.

And so, there is this magic moment that I don't know how long it's going to last, but right now, not only do I think it's possible to start a hard tech startup, I think it's actually easier to start a hard startup than it is to star an easy startup. People are, like, quite tired of enterprise software startup number 1,422.

And, if you're doing something that sort of makes people's eyes glass over, it is hard to hire. It is hard to, like, get the press to care. It is hard to, like -- it's hard to do anything except get capital. It's hard to concentrate talent. And if it's a startup that, like, really matters that people want to help on organically, there's this incredible tailwind for those companies.

**KEVIN SCOTT:** Yeah.

**SAM ALTMAN:** Certainly feel that at OpenAI.

**KEVIN SCOTT:** Yeah. So why don't we see more of these things? I mean, because -- I think you're right.

**SAM ALTMAN:** Because most -- yeah.

**KEVIN SCOTT:** There's OpenAI. There's --

**SAM ALTMAN:** There's like a --

**KEVIN SCOTT:** SpaceX. There's Tesla. Like, there…

**SAM ALTMAN:** Why we don't see more, I'm very interested in this question because I spent a lot of time trying to convince people to start these companies. There is a feeling -- like, my -- my general belief about the hierarchy that people go through in terms of career motivations is it starts with money. Then, it starts with, like, power in the weak sense, which is like, "I want to manage people and be able to control them and do whatever."

And then, it goes to status, like, "I don't care what people think about me." And then, it goes to impact, like, "I want to do this company that's really going to matter." And then, finally, either people end up, like, really going after self-actualization, which is, like, the last level of infinite Tetris and you can just get better and better, or they end up chasing enlightenment, and meditate, and do (crosstalk/inaudible) all the time.

**KEVIN SCOTT:** Yup. Yup.

**SAM ALTMAN:** But that's like the trajectory, and I've studied this hard and looked at a lot of people.

**KEVIN SCOTT:** Yeah, so this sounds like -- sort of like Maslow's hierarchy for entrepreneurs. (Laughter.)

**SAM ALTMAN:** Yeah. And the issue is most people want to get those first few levels checked off as fast as they can. And it's very hard to, like, play at a different level when you're truly internally stuck at this lower one. And so, a lot of people are like, "Well, I really do want to go start this company that's going to, like, take on climate change, but first, I just, like, want to not think about money anymore. So, I'm going to, like, do this enterprise software company." And I am sympathetic to it. I understand the drive there, but I think that's why people don't do more.

The problem and why it usually doesn't work is, if you're starting a company you don't actually care about where you're just trying to, like, make a three-year exit so you can go start your climate change company, you never quite make it work. And probably, those people, if they were willing to make a 10-year commitment to the enterprise software company, would do fine. And probably, if they just jumped into the climate company, it might work, too. But this whole, like, "This thing is a detour so that I can go solve the problem that I really want to solve," that's hard to make work.

**KEVIN SCOTT:** So, like, how -- I'm really, really interested in these transitions. Like, how did you decide to stop doing Loopt to the extent that that was your decision?

**SAM ALTMAN:** I had sort of run out of ideas about how to make it work, and just sort of -- like, it was clear and getting clearer that it was not going to be the company that I had hoped.

**KEVIN SCOTT:** And what did Loopt do?

**SAM ALTMAN:** We made location-based software for cell phones. And yeah, I think I had just -- and my co-founders, too -- had just run out of ideas. And it was like, all right, this is like -- you know, we could let this drag on for a while, or we could say, "You know what? There's, like, enough of a win here. Let's call it and move on." In terms of --

**KEVIN SCOTT:** And then, was that hard?

**SAM ALTMAN:** Of course. Of course. But there was, like, a big sense of relief when I was done. In terms of, like, going to YC, so one of the things that I had done in kind of the year off was I raised a small venture fund. This was before everybody was doing it, so this was also -- like, this felt like a frontier, too, which was cool.

And I thought I was going to like it. I thought it was going to love investing. And I did not at all. It was like -- it felt deeply unfulfilling.

**KEVIN SCOTT:** And in what way? I'm really curious about this.

**SAM ALTMAN:** Like, basically, the story of being a seed investor -- even more now but then, too -- was trying to find really good founders that didn't need your help and convince them to take your money, not someone else's, and at a lower price. And I was like I am -- cannot delude myself into thinking I'm creating value here. These are companies that would exist -- the good ones, anyway -- whether or not I invested. They, like, sure, maybe I can help them a little bit, but, like, the best founders don't need that much help.

And again, these are companies, by the time I'm seeing them, that are already going to be fine, and I'm just, like, trying to squeeze some capital in. It was not my thing.

And so, when PG first talked to me about running YC, I was like, "No, I tried that. I don't want to do that." And it was over a process where I was sort of, like, studying a bunch of other things that I was like, well, YC is this sort of singular force in the ecosystem, and even if it's -- the current version is not quite what I want to do because I had this experience, like, I could take it in any direction.

And like, we could make YC the platform for hard tech, and funding research, and doing later stage investment, and like, making a growth program, because one of the things I'd learned is that YC was really good at teaching you how to start a company, but there was nothing that was teaching you how to scale a company.

**KEVIN SCOTT:** Right.

**SAM ALTMAN:** And so, I was like, okay, like, I didn't like running a seed fund, but like, running YC, that's more like running a company, which I do like, and certainly my job at YC felt much more like being a CEO than an investor. So, that was cool.

**KEVIN SCOTT:** And do you know why? I mean, PG, at the point -- like, if it was smaller, Y Combinator was certainly smaller than it is now, but it was also -- like, it was already, like, the most successful startup incubator that had ever existed. Like, he could have done anything, literally. Like he -- but, like why do you think you were the one that he chose?

**SAM ALTMAN:** Honestly, I think the biggest thing was, like, he wanted to retire.

**KEVIN SCOTT:** Yup.

**SAM ALTMAN:** He could have done anything, but he did -- he was -- he had done it for a while. He had done it for, yeah, like the same period -- at that point, it was like nine years because it was my year off, too. And PG and I, and Jessica, too, were -- have been super close for a long time, and he kind of had a good mental model of me. And we thought about -- he cared about YC being what he wanted it to be, and he sort of knew that we thought the same.

**KEVIN SCOTT:** So, so a lot of it was -- like, he knew you had sort of the basics down in terms of, like, how to operate it, but it was like -- it was sort of a culture thing.

**SAM ALTMAN:** Yeah, it was mostly that. I mean, yeah. Like, mostly --

**KEVIN SCOTT:** So, he had this clear idea in his head of, like, this is the thing in want YC to be doing.

**SAM ALTMAN:** That we had been talking about for nine years.

**KEVIN SCOTT:** That you'd been talking about for nine years, and like, this is the way that I want to -- I mean, because it almost struck me that he had this very deeply personal reason for -- and I've never -- like, I don't know him at all, so this is just me sort of reading tea leaves, but it struck me that he had such an interesting experience on his own, starting his company, that like he wanted to create this thing where he treated founders in a fundamentally different way.

**SAM ALTMAN:** He cares about that so deeply, and it's such a moral issue for him. And like, watching, it always used to drive me crazy watching people, like, attack him on Twitter. It's like, if you knew this guy and, like, how much he cared, and like, how morally driven he is on this point, you would never say these things. He truly, truly is.

So yeah, that was like a deep thing for him. And he also just loves a great hack. (Laughter.) And this was, like, this was a great hack. Like, this is a way at scale to unlock a huge amount of talent and potential in the world.

**KEVIN SCOTT:** Yup. That's awesome. And so, what was your favorite thing about running YC?

**SAM ALTMAN:** It was super high leverage, super high leverage. You know, we could -- YC is a, at this point, extremely powerful force in the ecosystem, probably the most powerful force in the startup ecosystem. And so, the ability to change norms or sort of the Overton window of the kinds of companies you can invest in, or help a lot of people at once, was cool. And the network is so powerful.

Like, the central learning of my career so far has been you should almost always scale things up more, and all -- there are all these weird, emergent properties of scale. Like, this, in AI, it's something we talk about all the time. But you see this everywhere.

And so, I had this theory that -- it was PG's theory, and so I should say that PG had a theory that I believed in, which is that if you scale YC because it is fundamentally a network-effect business, not only is that required because advice and capital are both going to get commoditized, and the only thing left will be the network and the brand.

So, you have to scale it for that reason because -- but, but like, if you scale it, there will be all of these difficult to predict, emergent effects from a very large network of all the best startups.

**KEVIN SCOTT:** So, what's an example of one of these?

**SAM ALTMAN:** The classic one that sort of investors just can't believe they missed -- other investors -- is that, like, at this point, people feel like a lot of affinity towards YC, founders do. And so, they will try to buy other YC founders' products. And so, at this point, if you own an enterprise company, you can get to, like, serious B scale with only other YC companies as your customers.

**KEVIN SCOTT:** Yup.

**SAM ALTMAN:** That's an amazing thing.

**KEVIN SCOTT:** And that's because of breadth, and because, like, you've got this head of companies that are actually really quite big now, right?

**SAM ALTMAN:** Yeah, and they -- and they feel a lot of allegiance to each other. And so, they will preferentially work with any other YC company. Another example is that, like, sort of investors can't mistreat YC companies. And like, a lot of companies get killed because investors mistreat them. But people know that, like, the network talks. And in fact, on this point, you have, like, special software just to -- like, you can look up how their investors have treated YC companies. And that makes investors treat companies well.

**KEVIN SCOTT:** So, when did you -- when did you start thinking about AI?

**SAM ALTMAN:** Well, as an undergrad. When I was 18, I made this list of things I wanted to work on, and AI was the top. But I took the AI classes at Stanford, and it was, like, clearly not working.

**KEVIN SCOTT:** And why when you were 18? So, at 18, when this was 2000?

**SAM ALTMAN:** 2003. I was born in '85. But…

**KEVIN SCOTT:** So, AI in 2003 was not what it is now.

**SAM ALTMAN:** Well, I think everybody -- like, most everyone who grew up reading sci-fi like wanted to make AI. Like, this is kind of -- it just feels like we're all in this inevitable path, and that's where it's going. And it's like the most interesting thing to work on, but it just didn't feel like there was an attack factor.

And then in 2012, it started to work. And then, in 2015, which was when we started talking about creating OpenAI -- we started in early '16 -- it felt like not only was it going to work, but might work much better and much faster than we thought because there had been this one trend of just scale things up that kept working. And again, this has been, like -- I mention it's been, like, the central learning of my career. The asterisks to that, though, is that humans have not apparently evolved well to guess how exponential curves are going to play out.

**KEVIN SCOTT:** Yeah.

**SAM ALTMAN:** And so, when you scale these things up, if they're getting -- like, you know, doubling every year, in the case of AI, maybe 8 X in every year. We don't have good intuition for that. And so, people are never bullish enough if the curve is going to continue.

**KEVIN SCOTT:** Yeah.

**SAM ALTMAN:** And so, it was like, huh, maybe this is really going to work.

**KEVIN SCOTT:** But AI is -- AI is like a tricky -- a tricky thing, you know, in the sense that we -- the term artificial intelligence, like, wasn't really coined until the Dartmouth workshop in, what, '55, '56?

**SAM ALTMAN:** Something like that, and they thought they were going to get it done that summer.

**KEVIN SCOTT:** Oh yeah, they were completely convinced. Like, if you read those documents, like, they had this list of things and they were just sort of convinced that the progress was going to be much faster than it actually was. And like, we have had a couple of booms and busts now, you know, where you can actually go to Wikipedia and look up AI Winter, and like, the bust has a name.

**SAM ALTMAN:** Yeah. Yeah.

**KEVIN SCOTT:** So yeah, one of the things -- and I'm just, for what it's worth, like, I am a -- I'm in the optimist column here.

**SAM ALTMAN:** Booms and busts are the way of the world. Like, you know, we talked earlier about startups. Like, we've got a lot of booms and busts there, but the curve, though it squiggles, if you zoom out enough, it goes up and to the right.

**KEVIN SCOTT:** Yup.

**SAM ALTMAN:** And the curve of computers getting smarter does, too. Now, how much further we have to go, when we're going to get there, very hard to say. What I can say with confidence is maybe the current trends don't get us all the way to general intelligence, but they're going to get us surprisingly far. They're going to change the world in very meaningful ways, and maybe they go all the way.

**KEVIN SCOTT:** Yup. And so, like, I'm interested to go back to this whole creative writing thing because, like, I think the storytelling around AI is, like, one of the really, really interesting things right now, like getting -- because you guys -- so, OpenAI is a non-profit organization that is committed to, like, realizing artificial general intelligence, and for having the value that AGI creates sort of accrue to the public good.

**SAM ALTMAN:** To be clear, we have not figured out the storytelling yet. I agree it's really important. I think about this stuff all day. I can barely, in my own head, think clearly about what the world really does look like if AGI happens. You know, all of the stories I can tell are either like too mundane or too grandiose.

**KEVIN SCOTT:** Yup.

**SAM ALTMAN:** It's like, either like, oh, medicine gets better, or it's like, sentient beings colonize the universe until the heat death. And sort of neither of those quite feel right.

**KEVIN SCOTT:** Right. And people get -- and people get really, really -- you know, I know one of the things that you have -- you've said is something about, you know, the light cone of all --

**SAM ALTMAN:** People don't like that.

**KEVIN SCOTT:** Yeah. And like, people get really upset about the grandiose things, which sort of makes them miss all of the, like, really concretely useful things that this stuff is going to do with 100 percent predictability over the next few years.

**SAM ALTMAN:** Yeah. If you're going to -- you're going to -- if you're doing anything interesting, you're going to have a lot of haters, and you may as well, like, say the thing you actually believe. (Laughter.) So, I could, like, try to sort of, like, you know, figure out exactly how to calibrate this sort of, like, somewhat dishonest version of what I believe the future's going to look like, or I could just say, like, "Here's what I actually think. I might be wrong, but here's what I genuinely think," and not try to under or oversell it. And that's what I actually think.

**KEVIN SCOTT:** So why do you think that?

**SAM ALTMAN:** It is possible there is a very -- actually, I don't even think it's that unlikely. I think there is a reasonable chance that there is something very deep about consciousness that we don't understand, or we'll all Boltzmann brains, and none of this is real, or whatever. But if not, if physics as we understand it works and everything is just sort of an emergency property in our brains of this very large computer we have, then I think that will be replicate-able in silicon. And I don't, like, I still think that's the more likely outcome.

**KEVIN SCOTT:** Yeah, which I -- like, honestly, I think that's reasonable. And like, where people sort of seem to be getting wrapped round the axel is, like, what the -- what the architecture of that silicon looks like, and what the timescale is.

**SAM ALTMAN:** I hate that argument, though, because like -- there's like -- the number of people who kind of get really mad because they're like, you know, "You people who say AGI is, like, 10 years away, it's like, it's more like 30." It's like, okay, this is like the most important technological development in human history. It is in the blink of an eye on the scales of humanity, and you're going to, like, sit here and get in a fight because it's like 10 or 30 years. Like, and either way, like, what an important moment to be in.

**KEVIN SCOTT:** Yeah.

**SAM ALTMAN:** So, I think the timescale argument is quite dumb. The silicon architecture argument, like, that's more -- that's intellectually more interesting, at least. Like, that's like more practical.

**KEVIN SCOTT:** Yeah.

**SAM ALTMAN:** It's more fun. But you know, like the work we're doing with you guys, like, we're making incredible progress, and the future looks really exciting.

**KEVIN SCOTT:** Yeah, it does.

**SAM ALTMAN:** I think the computers that we're going to have in five years are going to be mind-blowing.

**KEVIN SCOTT:** Yes. And I think the interesting thing, for me, is I don't even have a prediction in my head for, like, when I think AGI might happen. But like, what I do know is that the push that we've had for the past seven years since -- basically, since deep learning has started really working on perception, and like, you know, a little bit on language, and a little bit on game playing, is like, you've got this really fantastically interesting two exponentials. So, like, you've got an explosion of data and you have an explosion of compute power. Like, one of the things --

**SAM ALTMAN:** There's a third one, which I think is more -- you know, we talked about what the sort of ambitious young people are working on. You have an explosion of talent. Like, this is the thing that every smart 18-year- old that goes to college now and studying computer science wants to focus on, almost everyone.

**KEVIN SCOTT:** Yeah. I mean, you can totally see it. Just look at -- look at how many people go to NeurIPS now, so this is the big deep learning conference.

**SAM ALTMAN:** It's a zoo.

**KEVIN SCOTT:** It's sort of like SIGGRAPH was when I was in grad school. So, SIGGRAPH's a big graphics conference, and it was -- it's -- I mean, it still is like a huge event, but NeurIPS is, like, I mean of all things, has turned into like this occasion.

**SAM ALTMAN:** Totally.

**KEVIN SCOTT:** And like, I think you're totally right. Like, all three of those things are super exciting, and I think, you know, whenever you have an opportunity to invest in things that have, you know, these exponential forces pushing on their progress, like you're going to get something interesting. Like, whether it's exactly the thing that you're aiming at, like, you're going -- something interesting is going to happen.

**SAM ALTMAN:** Totally.

**KEVIN SCOTT:** And like, one of the interesting things that's happening right now with these, you know, computers that we're building to train very big models is that we are -- like, computer architecture's all of a sudden interesting again, and it hasn't been for, you know, 20 years, maybe, 15 -- like, a while.

**SAM ALTMAN:** Yeah. Yeah, that's cool because there's all these people that really want to work on that. They've had nothing to work on, which means we can get incredible talent focused on this.

**KEVIN SCOTT:** Yeah. Yeah, we've got all of these people who did high performance computing in the '90s who, you know, and like I -- I was not an important person working on high performance computing in the '90s, but like, I was a compiler person. And like, I thought that none of the stuff that I learned in graduate school was ever going to be directly useful again. And like, here it is.

**SAM ALTMAN:** Here we are. It's cool. It's really cool.

**KEVIN SCOTT:** It is really cool, and just a reminder of, like, how cyclical not just technology is, but history. I mean, like I don't -- how much do you think about, like, the historical corollaries for the disruption that we're going through, like Industrial Revolution? You know, like I think the steam engine's a really fascinating example.

**SAM ALTMAN:** That's a great one.

**KEVIN SCOTT:** Like, do you have any others that -- because I know you've thought a lot about this?

**SAM ALTMAN:** Yeah. I mean, I think the analogs are the Agriculture Revolution, the Industrial Revolution, the Computer Revolution, and I think the AI revolution will be bigger than any of those three, bigger than all three of them together. I love reading sort of firsthand accounts of people at the time as they were kind of going through those.

There's this great book called *Pandemonium* which is -- it's all primary source material of the Industrial Revolution as it was arriving. And many of the things that people say in that book could be said now about how people feel about AI. There's no jobs; it's going to take over; the machines are going to kill us; like, the future is going to be terrible; or like, it's going to be utopia. It's like, this is so amazing. Like, there's nothing these machines can't do.

**KEVIN SCOTT:** And the reality was some complicated thing in the middle.

**SAM ALTMAN:** And we always figure out something new to do. Like, the rate of -- for instance, so one of the common themes in that book was, like, what are we all going to work on. The rate of job turnover is something like 50 percent of the jobs every 75 years, and this held remarkably constant. You know, it has like fits and spurts, but that's held constant for hundreds of years. And like, we go -- like, technology changes. Whole classes of jobs go away, and we find new ones. And they're difficult to predict what they're going to be. But like, I think the jobs this time will change a lot, but we're going to find things to do, I'm pretty sure.

**KEVIN SCOTT:** Yeah. Well, and the thing that I think one of the hardest things to do right now, and it's why I think we really need to get a lot of folks who aren't computer scientists thinking about these problems is, like, we're sort of thinking about a bunch of things sort of superficially, right now.

You know, so for instance, there's been some kneejerk things that people have said that, like, "Oh, well if robots are going to take all the jobs, then we should tax the robots." And if you really look at the --

**SAM ALTMAN:** Bill Gates said that, I think.

**KEVIN SCOTT:** I think Bill Gates did say that, and it's -- and look, Bill Gates is not a superficial thinker in any shape, form or fashion.

**SAM ALTMAN:** No. Not at all.

**KEVIN SCOTT:** Bill is one of the deepest guys.

**SAM ALTMAN:** True. It's super impressive.

**KEVIN SCOTT:** It's intimidatingly impressive. But you know, one of the things that -- one of the things if you look at the data, that you will see is that we are, in manufacturing, at this sort of efficiency equilibrium right now where a relatively fixed percentage of the population for many, many years has been responsible for producing all of the manufactured goods that the rest of us consume. And it's a tiny little percentage.

And it had sort of -- it's, like, had fallen, like, this sort of percentage of the population working in manufacturing had gone sort of straight down since almost the very beginning of the Industrial Revolution. So almost as soon as we invented the notion of manufacturing, like, we started to get more and more efficient.

**SAM ALTMAN:** Yeah.

**KEVIN SCOTT:** And one of the things that happens when you get to these equilibria is that you have very few things that you can do to, like, create more opportunity and growth. Like, one trick you can play is global labor market arbitrage. So like, you can sort of, like, try to find people who are less expensive than the people that you've got in, like, your particular geography, or consolidation's another good trick. So, you can, like, take a bunch of small things and turn them into big things.

And I think, you know, one of the things that happens with advanced automation, and AI, and manufacturing is that a CNC mill that you put in St. Louis is -- costs about the same and is about as productive as one that's in Shen Zing. And so, you actually don't want to tax the robots, I think, because -- or, like, not at least in a, like, very broad way, like maybe there's some targeted like robot taxes that you want to put in place. But if you think very broadly about it, what this equalization of productivity does is going to sort of undo some of the --

**SAM ALTMAN:** It should be the anti-globalization effect.

**KEVIN SCOTT:** Correct, and it should help actually with consolidation, as well, because, like, there's sort of a Moore's Law of manufacturing automation equipment that means that for, like, the machines get cheaper sand more powerful, like, over time very quickly. Like, AI will accelerate that.

Like, I've got anecdotal examples, right? I grew up in rural central Virginia. Like, I have friends who work for these companies now that are, like, running very successful, like, manufacturing businesses that, you know, just wouldn't exist without all of this advanced automation. If you, like, tax the machines that they were buying, then, like, the work that they are repatriating from overseas and creating jobs would, like all of a sudden, become less competitive again.

**SAM ALTMAN:** Yeah. I think, like -- I personally think that's a very silly idea. I think we need radically new taxing systems for this kind of a world, but I think, like, taxing the robots, with my air quotes there, is not the answer.

**KEVIN SCOTT:** And if it is -- so the thing -- the thing that I've been trying to encourage people to do is, like, I would love more non-computer scientists, more non-engineers, like, thinking very, very deeply about the set of problems because the very broad solutions that we're painting for some of these things are probably not going to be the things that are needed. And it -- like, and we should have lots of people talking about it right now, not just, like, a few of us dorks here in Silicon Valley.

**SAM ALTMAN:** For sure. Like, if we don't get a very broad set of people thinking about these issues soon, I think we're very unlikely to get to the right answers in time.

**KEVIN SCOTT:** Yeah. So, what is the most exciting thing that you think is going to happen in AI over the next few years that you can talk about?

**SAM ALTMAN:** Well, I'll give a few, because I think the interesting thing is the breadth of things that are going to happen. I think we'll have language models where we can interact with computers with natural language in an amazing way that we just -- that feels unimaginable, and that's going to feel like intelligence. I think we'll have robots that can do human dexterity levels of manipulation, and that's going to be a huge impact on the world. I think computer games are going to get really good and fun to play. That's a sort of small sample.

**KEVIN SCOTT:** Yeah. So, it's exciting.

**SAM ALTMAN:** Totally. It's amazing.

**KEVIN SCOTT:** And you know, none of those things -- so, this is -- this is sort of to my point, like, none of those things is like Commander Data from *Star Trek: The Next Generation* walking around, and still, useful stuff will happen.

**SAM ALTMAN:** Right.

**KEVIN SCOTT:** So, that's the thing that makes me, like, super, super excited.

**SAM ALTMAN:** Totally.

**KEVIN SCOTT:** And if we get Commander Data, like, I'm excited about that, as well.

**SAM ALTMAN:** Might happen. Probably not in the next couple years, but at some point.

**KEVIN SCOTT:** (Laughter.) Probably not. So, we're sort of running out of time here. But you do some, like, crazy interesting things in your spare time, like you personally fund some interesting physics things.

**SAM ALTMAN:** Yeah.

**KEVIN SCOTT:** So, like, what's the most fun, like, non-work thing that you've done over the past few years that's sort of just wild and interesting?

**SAM ALTMAN:** I'm very thankful that there's so many things I could say here. Hmm. One thing that has been surprisingly great over the least year is a lot of long meditations and finding a group of people who have been nice enough to spend time with me and teach me, and that's been sort of a -- significantly changed my perspective on the world.

**KEVIN SCOTT:** In what way?

**SAM ALTMAN:** I think I just -- like, I'm a very different person now. I think I'm so much more content, and grateful, and happier, and calm. And it's something that I just really wouldn't have expected me to get into.

**KEVIN SCOTT:** I know that, a few years ago, I think -- so, I don't meditate, but like a -- a bunch of these sort of Buddhist practices around sort of compassion and mindfulness Like, the thing that I've latched onto that's been really useful is just gratitude.

**SAM ALTMAN:** Totally.

**KEVIN SCOTT:** Like, trying to -- trying to find in as many moments in as many days as possible something to be truly grateful for. And like, I surprise myself because I'm a -- yeah, I think engineers are sort of pessimistic, and like, a little bit cynical by nature, like but abide by the -- you're sort of wired a little bit to sort of see all of the problems in the world because, like, that's part of what motivates you to go out and, like, change them and make them better. But it is, like, sort of a jaundiced way of looking at the world sometimes. But like, I've just been shocked at how many things I've -- I can find to be grateful for every day, and like, how much, like, calmer that makes me.

**SAM ALTMAN:** Totally. You know, I think that's a -- I had tried all of these practices before settling into my current one, and that was a good one. But I had done, like, a lot of the sort of, like, mindfulness stuff, and the 15 minutes a day of mediation. And the thing that actually has worked for me is less frequent but very long meditations, like an hour and a half or two hours, just sitting and doing nothing -- not focused on a mantra, not focused on breath, necessarily, but just, like, sitting in calmness and gratitude to the universe with my eyes shut for long periods of time.

**KEVIN SCOTT:** Yeah. And that's hard to do, I mean, especially, like, you know --

**SAM ALTMAN:** It gets easy fast. It gets great. But yeah, it's hard the first few times.

**KEVIN SCOTT:** But like, especially, like, when you live in a world where you've got this, you know, like little dopamine trigger sitting in your back pocket called a smartphone --

**SAM ALTMAN:** I'll tell you, one of the things you think about the first few times is just how far that's gone.

**KEVIN SCOTT:** Yeah. Yeah, which is -- it's an interesting. Let's -- so, before we go, you were telling me about this physics experiment that you--

**SAM ALTMAN:** Oh. Yeah.

**KEVIN SCOTT:** You actually got someone to build an experiment to verify this very bizarre quantum mechanical phenomenon.

**SAM ALTMAN:** I think the -- we probably don't have time to get into it in detail, but the quantum eraser experiment, and sort of all the derivatives thereon. Like, I needed to see that. I actually want to make a series of videos about that.

**KEVIN SCOTT:** You should totally do it.

**SAM ALTMAN:** But I think, like, it's one thing to read about it. And then, it's another thing to, like -- it's always like when you do the math yourself, you understand it in a way you don't when you read about it.

**KEVIN SCOTT:** Yup.

**SAM ALTMAN:** And this thing just, like so broke my conception of, like, how I thought the world worked. Even though I believed it and understood it, like, I wanted to go through the motions. And yeah, I do want to make videos of it. But it was, like, one of the more mind-blowing experiences of my life to, like, know it was going to work, but still just, like, see the interference pattern, and then see it go away.

**KEVIN SCOTT:** So, that's the teaser for everyone. So, like, go right now, look up quantum eraser experiment on the Internet.

**SAM ALTMAN:** If you really want to blow your mind, look up the delayed choice quantum eraser experiment.

**KEVIN SCOTT:** Delayed choice quantum eraser experiment, and then, wait for Sam Altman's video series on the subject. And so, with that, thank you very, very much for coming in and chatting with us today.

**SAM ALTMAN:** Thanks for having me.

**KEVIN SCOTT:** Awesome.

**CHRISTINA WARREN:** That was Sam Altman, the CEO of OpenAI.

And Kevin, that was such an interesting conversation. You guys really went over a lot of different areas. But one of the things that kind of stuck out to me was your conversation towards the end about how you can overcome maybe some of the fears around not just AI but anytime there's a big change in how things are done.

**KEVIN SCOTT:** So these systems that we build, like whatever technology you're talking about that has sort of disruptive impact, whether it's a steam engine or, you know, a bunch of industrialization for agriculture or it's personal computers or AI, you have to remember that there are people who are building them, and like we all get to collectively decide what good purposes that they are put to.

And so, you know, the interesting thing that I think we are facing right now with AI is like can we all sort of get this vision of what it is that this positive impact of AI is going to be, -- you know, that -- that we're sort of focusing all of the collective efforts of everyone working on it on like creating that good.

Like OpenAI in and of itself is like structurally an interesting thing for trying to focus it on good. Like they could have done a bunch of different things to like try to accomplish the same end effect, like they could have just created a normal for-profit company and tried to run it that way.

But instead, like they decided like we're going to create this nonprofit, we're going to arrange things in a way where like end success the bulk of the value of this company is going to go to the public good.

And they've also chosen to focus on safety. Like they really, really take it very seriously the obligation that they have to make sure that as these technologies develop, that they are released in a way that's safe and that they create more good than harm.

This can't be just a thing that a bunch of folks in Silicon Valley and in -- you know, in Seattle and like the other places that tech is done at scale are sort of debating like in this insular way amongst themselves and, you know, then making a bunch of decisions. Like we need a lot of people participating in this conversation overall.

**CHRISTINA WARREN:** So --

**KEVIN SCOTT:** And, you know, we chatted about like, you know, taxation as a mechanism.

**CHRISTINA WARREN:** Right. But let me just ask then, how do we get -- I mean, this might be a loaded question, but how do we get those people who are not the engineers, who are not living in Silicon Valley, who are not, you know, in Cambridge, who aren't in Seattle, how do we get them involved in this process?

**KEVIN SCOTT:** I think it's like everybody has to say that this is what we want to do. So, it means for the folks in tech, you have to slow down enough to try to better explain the things that you're doing, because a lot of this stuff is very complicated and it moves very, very fast.

And like having enough time in what it is that you're doing to actually, you know, sort of engage in a public conversation about it, in a real way, like not this sort of, you know, trivial way where you just sort of say, oh, you know, trust us, you know, like it will turn out okay, like that's not enough engagement.

And, you know, I think you know, on the flip side like we need folks who like are willing to like get themselves to be a little bit uncomfortable in like sort of poking into some stuff that is like genuinely complicated, and where the answers for like what we need to do to sort of influence its direction as a society, like isn't the -- you know, the easy, sound-bitey sorts of things that like we sort of seem to be inclined to want like as part of our, you know, Twitter-oriented public discourse.

**CHRISTINA WARREN:** Makes sense, it makes sense. I hope that we can get there and I hope we can continue to open up those channels of communications across the different groups.

**KEVIN SCOTT:** Yeah, I think so. Like I'm seeing promising signs. Like we've got -- we have a bunch of good engagement. Like I see policymakers like asking great questions and engaging. I see more willingness from the tech folks to like participate in the dialogue. Like I think the journalists are getting super smart about this stuff. And like it's just -- it's getting better. I have hope, as usual.

**CHRISTINA WARREN:** I love that you have hope.

All right, well that does it for us for this episode of Behind the Tech. If you liked this episode, please give us a rating on Apple podcasts. That really helps us out. Tell all of your friends, whether they're techie or not, because I think these conversations have a lot of value.

And actually, one of the things that Sam and Kevin talked about was the idea of what is going to be the tool or the platform that this generation of kids uses to build the next big thing. And so, if you have any ideas as to what that is, send us an e-mail at behindthetech@microsoft.com.

**KEVIN SCOTT:** Awesome. Thanks, Christina. And we'll see you all next time.