Caltech Heritage Project Oral History (2025) - Don Listwin
Interviewer: David Zierler
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Okay, this is David Zierler, Director of the Caltech Heritage Project. It is Tuesday, March 25th, 2025. It is my great pleasure and honor to be here with Mr. Don Liswin. Don, it's wonderful to be with you. Thank you so much for joining me today.
Thank you and good morning. Don, to start, would you please tell me your titles and institutional affiliations past and current?
Oh, Lord.
Well, titles, you know, I've been a CEO six times in the technology business. I've been on, in the cancer business, I've been on the Fred Hutch board. I'm on the Stanford Canary Center board, and I am an adjunct professor of radiology at Stanford. There are a lot of other titles, I guess, but that's probably the best. In the business side of things, besides the CEO roles, probably the most formative one was being able to be the EVP at Cisco Systems during what I call the right 10 years, 1990 to 2000. And at that point, I had a great opportunity to run a big part of that company and learn a lot of things from the CEO, John Chambers.
Now, why was that the right 10 years, as you called it?
Well, they had just gone public, and that 10 years later in March, I think, 21st, I've got it around here somewhere, it became the most valuable company in the world. So it passed GE and it passed Microsoft for a brief moment there. Not like the stratosphere of NVIDIA's today at $3 trillion. It was, you know, half a trillion, which we were very proud of. But that 10 years, I held on to all of my options and stock, and I didn't sell until I left to become a public company CEO. And that allowed me to create a financial infrastructure to get Canary going.
Todd, now I wanna ask, sort of at the broadest possible level, what made you think, coming from a finance and technology perspective, that you could create such a massive historic impact in cancer research? What was the confidence? What was the audaciousness? What was in it in you that made you take this leap in your career?
Well, I would say, you know, what I'm best at in terms of business is market development and technology development. So at Cisco during those 10 years, one of the biggest things I ended up doing was creating an IBM internetworking series of technologies where IBM internetworking was an oxymoron. You weren't supposed to interconnect with IBM on anything. And so that was a whole new market for us. And so that's what I became good at, trying to analyze a new market, see how we could insert either through acquisition or organic growth. So I figured that those skills were transferable. And furthermore, I mean, the internet building it was a giant collaborative effort. I always joke and tell my kids, I didn't invent it, but I installed it. And so we were way ahead of the scientific community in terms of being able to collaborate with each other. Scientific community in the 1990s was, you know, one pig, one farm. And so I think we were, I brought that teamwork mentality and not being afraid of anything. I brought a great naivete into the scientific world, which was good in some regards and naive in others in terms of, I thought I'm 25 years into this project. I thought I will have succeeded. And I certainly have on a number of measurements, but in terms of having the goal that I set out 25 years ago, I haven't reached that goal yet. Don, I'm curious, also in the 1990s, this is the beginning of what we now call big science, things like the Human Genome Project that was the transition away from, as you called it, the one pig, one farm. Were those sort of technological and sociological developments in science, was that important as you were thinking this pivot in your interest? Yeah, certainly the whole genome...
Getting, quote, discovered and tools from Illumina and others trying to understand that. The other technology that had a lot of promise, which didn't go as well as people hoped, was proteomics, so the study of proteins. And then really, one of the things that differentiated us was, from Stanford, Dr. Sam Hanbeer joined

one of our teams, and the whole idea that this has to be a two-step process. No surgeon is picking up a scalpel based on one test result. Generally, they want two, and the second one is either a biopsy or an image. And that's still to this day something that we try to really hammer into new additions and new scientists that you're trying to solve part of the problem. This isn't like drug discovery where it's, aha, I have the magic pill. This is, you want to narrow down the problem so the next test can narrow it down further and give confidence to act.
Okay, now let's sort of take our discussion and sort of the broad span of early cancer detection in historical perspective. Relative to when you first started thinking about these things deeply and where we are today, where's the major progress that's been achieved? What feels like, you know, the future is still in front of us?
I'd say we've made progress in terms of cancer care on three legs. One in terms of prevention. Obviously, there was a lot of smoking going on 25 years ago. Still is globally, China and other markets. So prevention really, really helped. In early detection...
Really, the progress was in getting people to understand the available screening. I mean, my gosh, my cousin died at 51 a couple of years ago of colon cancer because the standards in Canada weren't ready for him to have a colonoscopy. So what's out there?
being utilized has really been the thing that has changed. And then on the imaging front, more advanced imaging. For instance, now it's emerging as one of the standards of care on prostate cancer is to have an MRI, which was never the case, and MRI-guided biopsies and others. So we haven't had, you know, the breakthrough. Grail, as you may know, is an Illumina company who's working on a multicancer biomarker test, and biomarker just meaning some marker of biological fluid, urine, blood, whatever it might be. We haven't had the breakthrough there that we wanted and expected.
Now, it's interesting because of all of the ways you could have come at the cancer problem, you focused on early detection. If you could walk me through, what was your inspiration for that and what were you thinking, even perhaps from a market perspective, in terms of where dollars were being invested versus the biggest bang for the buck?
Ja, well...
So there's sort of two sides to that early detection coin. My dad had a colonoscopy and we've discovered that we are genetically susceptible on my paternal side. And I ended up having bleeding and I went in at 20 something, which I think many 20-year-old men wouldn't. And they found polyps, which back then it was like, well, we'll take them out. But today we believe that polyps are precursors to colon cancer. So that early detection may well have saved my life. On the flip side, my mom at 62.
got misdiagnosed with a bladder infection, and they gave her antibiotics for what was a stage 4 ovarian cancer. And she was my best friend.
Sorry.
It's okay.
aham
And finally, my sister, who is a nurse, wrangled her into the hospital where she got diagnosed and it was too late and she died. So, you know, I...
They only have lived through this. My first wife ended up getting vaginal cancer at 28 years old, which is unheard of. Her doctor had a good day. He found it on a pap smear, which is very unusual, but ultimately it was just too late. So, sorry, I'll pull myself together here. That's okay. This is what it's about. It's okay. It's what it's about. It's script.
So, so that's what influenced me. And, and then with my mom, my mom died, actually, I'd left Cisco and gone to two public companies that joined. For those of you who are out there thinking about that, don't ever do that. That's, that's murderous on everybody involved. And I remember being with her, and the CFO called me when I was in hospice, and she had just died and said, we missed our quarter. And I said, well, that's, that sucks, and uh but I got to go take, take care of this. So it was, it was really that moment.
I'd done my thing as a public company CEO. I finished up that, got that company back strong. It was weak and...

We had merged the two companies just as the markets in spring of 2001 began to crash. I ended up working through laying off 1500 out of 3000 people, going through 9/11 with 200 people stranded globally. I sort of, after 25 years, I thought I'd done my thing for business. I had been financially successful.
And then where could I take my skills of market and business development and technology and apply them to a bigger problem? And what became clear, specifically through ovarian cancer, is early is pretty easy to treat. Outcomes are fantastic if you find it. The problem for most women with ovarian cancer is the symptoms are very much like menopause. So the age group is 60 to 70 for ovarian cancer. They're taught as women to shut the hell up about your bloating or you're uncomfortable with this or that or the other thing. And so...
The idea was being able to figure out a way to sort out early detection, and this is true for almost all solid tumors. When you find them early, you can treat them. They're quite treatable. But we just have diseases, the worst two, I guess, are in terms of not being able to find them, are pancreas and ovarian cancer.
Now, to be clear, when you did this shift, were you thinking that you were going to leave the technology industry altogether, or was that a soft landing? What were you thinking at the time? Yeah, I certainly was thinking I was going to leave operating roles, you know, in the Cisco days and others, there's no such thing as 9 to 5. Yeah. 5 to 9 was the basic day back then. I continued to do technology investment. And to this day, I have my little venture company, Lisbon Ventures. I probably have 20 different investments that I do in and around areas that I'm familiar with. But I have done more recently med tech, a company called Rapid AI, revolutionized stroke care globally and changed the global standards where that company probably is saving, versus the old standard, hundreds of thousands of more lives. Also, I'm involved in handheld ultrasound, which later on in the story is important because I think handheld ultrasound machines that cost on the order of $5,000 to $7,000 can become the everyday imaging tool for the general practice, which can really help in this continuum of, okay, we do have a blood test. It's high. Let's go do this imaging test, but you don't have to go anywhere. We'll do it in a GP office place. So I continue to invest and be on a lot of boards, public company boards, private company boards, but not operating roles. And I really was operating as the CEO of Canary.
Was there a playbook? Were there other people that you emulated or referred to coming from technology and finance who made this pivot to healthcare?
Well, the vision of this was from a guy named Dr. Lee Hartwell at the Fred Hutch Cancer Center in Seattle. So how that all came about is I sent out a series of emails on a Saturday to a number of institutions, development departments.
And said, hey, I'm interested in working in ovarian cancer.
And the development director, Pat McGowan, emailed me back about an hour later, which always is good for me in terms of, are you on it? And it was Saturday, nonetheless. And she said, yeah, we have this great program, Nicole Urban.
And we'd like to see you. So I went up to Seattle, and when I went to Seattle, I met Dr. Lee Hartwell, who was the institute's director at the time. And this really was his vision. His vision really was this two-step process, biomarker and what we call molecular imaging. So not just imaging like a CT scan, but we put something into your body that can really be specific and home to the cancer so we can be sure there's not false positives. So this was his vision, and he's the one who originally helped me convene a team. And then I learned along the way as I went, imaging from Sam, genetics from Peter, and so on. And so that's how this all started. Now, geographically, you were in the Bay Area and you went up to Seattle, or how was that connection? Yes, yeah. So I was in the Bay Area and went up to Seattle, and that's where my primary major funding went. Nicole was a data mathematician, and she needed to get a wet lab.
And she was about 24th on the list as a data mathematician. So I gave her the first million-dollar gift I'd ever given, and she got a lab to begin to work. She was working on ovarian cancer biomarkers. And I continued to fund her.
And as Lee and I got a better relationship, you know, I said, shouldn't there be a place...
Where we can do all of the work, all the multi-omics work, together, and wouldn't Seattle be a...

Good place to do that. And he said, yeah.
So I ended up negotiating with him and discussing with him and gave the Hutch a $10 million gift to create a center for early detection at the Fred Hutch. And a bunch of that money was used to bring in proteomics people, Dr. Sam Hanash and Dr. Mandy Palavich, because there was no expertise there. And so that's how the program started. Were you in a financial position where you thought you could do most of the giving yourself that allowed you for a certain level of control for the vision of what you wanted to accomplish? Certainly at the beginning, yes. You know, there were, we built a whole variety of models. There were team, big teams, which we can talk about a bit in the future. There were lunches where I'd sit down with scientists and they'd pitch some idea and I'd pull out my checkbook and write them a $50,000 check to go and see if the idea, you know, made some sense and held some water. But the hallmark of Canary over the long term has been leverage. For every dollar that I've put into the foundation, there's probably been five more dollars from other people. And for every of those dollars, we get leverage of around 10 to 1 from National Cancer Institute and other granting institutions. So the whole idea was to build some leverage. But at the beginning, I had enough resources to get things going. Don, being in the Bay Area, Stanford being right next door, when did you establish that connection?
Well, so Lee and I discussed, and he said, what we should do is to build this team. And we don't have everything we need at the Hutch. Notably, what we don't have is advanced imaging technology at the Fred Hutch. And Stanford had, bless his soul, he's passed, but Dr. Sam Gambier as a world leading, one of the top three, I think, and arguably one of the best in molecular imaging. So Lee convened the meeting, which was held at my home here in California in Woodside.
And we ended up with Pat Brown from Stanford, who invented the DNA microwave. We had Frank McCormick from UCSF. We had Peter Laird, a methylation expert from USC. Sam came in as the imaging guy. Sam Hanosh came in as the proteomics guy. Marty McIntosh came in as a data scientist for us. And we all came together. And so that's where the two Stanford links really came in, the majority of which over the long-term was Sam, as Pat left after five or seven years to start Impossible Meats. Dom, I see here in the story so far, there is the philanthropic world, the foundation world. There's academic scientists. What about government-supported basic research? What's the role of FDA, NIH? How are you thinking about public initiatives in this development stage? Well, what becomes clear as you develop in this world is if you give scientists with a good idea and a good scientist some seed money when they get early results, they're about five times more likely to get a grant from the government. So that was the whole idea. How do you give them a head start? So if let's imagine there's five people trying to do this proteomics study, and four of them have an idea, and my canary person has an idea and preliminary data, they're always going to win that grant. And so that was a model which we used. And we also used models of most of my major funders early on in the days were more senior venture capitalists that I knew. The most noteworthy of which was Don Valentine, who is the founder of Sequoia, who was my father-in-law. Oh, wow. And then the probably the most important to the story was Bill Bose. And he was really the anchor that helped us start building infrastructure at Stanford. But to this day, it's about leverage. I've got a call recently from a new foundation just formed. They sold their company for $5 billion to another high tech company, and they put a billion into...
into work and they want to work on early detection of pancreas cancer. So I think we've got to a point where the brand, we have a trusted, respected brand, and that's also another way that we can create this leverage outside of NIH and CI. Who knows what is going to happen this day and age with the grant.
From that institution. Don, the idea that, you know, you're in a position as an individual investor with a vision to fund research in a much less conservative way. You can write a check if somebody has a good idea with the dream being that if it works, they could go on to, you know, a much larger phase in funding from government sources. Is that a investing philosophy? Is that a perspective to achieve success that comes sort of directly from the Silicon Valley VC investing kind of world? Oh, I think absolutely. I mean, you should think of me as the seed investor, right? And then we go out and look for our Series A people like Bill B

owes or Mr. Valentine, or for that matter, a great example of that, and I know h e doesn't mind me sharing, Frank and Denise Quatrone, who is quite a famous bank er in the world. Frank's dad died early in his very early.
50s of prostate cancer. And I knew Frank both from a business and a personal poi nt of view, and I approached him, and he and his wife gave us the first money to start our prostate team. Now, it was one of our more challenging programs becau se we had to commit to milestones. So one of the differentiations and one of the skills was, you know, I always used to say at Cisco, don't confuse efforts with results, right? And so with the prostate team, we're like, you know, Frank's go ing to give us the next million dollars.
If we do this, or we get close, you know, to this. Because one of the things abo ut cancer philanthropy, which is frustrating to people who give, is it just feel s like a giant black hole. You raise money, it goes in, and you never hear a dam n thing back, or for that matter, you don't hear, which would be better, well, w e failed, and here's how we failed, and so now the aperture of our next attempt is smaller because we know not to do that. And that's, again, for future, one of the advantages of Canary is that we know what doesn't work. And so we say no to that. And so that skill came from Cisco. We built giant ASICs for our routers. I didn't know how to build an ASIC, but I knew when one was gonna work and one w asn't gonna work. And after the second try, one never worked after three turns, ever.
And so after the second turn, if it didn't work, we canceled it. And so we had t hat kind of attitude.
we're not canceling programs, but giving them enough to get going and having the m prove it, versus a scientist who gets a three-year grant and five years later you know whether or not something happened.
Don, it's a question that you can apply always to sort of in the history of grea t ideas.
What is your sense of why no one thought of this approach before you? In other w ords, if it's so obvious the importance of early cancer detection, and it was so obvious that this was a part of the, you know, research process that needed fun ding, why did Don Listwin need to come along in the late 1990s when these proble ms had been around decades earlier?
Well, I think there were two big problems. One is there wasn't collaborative sci ence models, right? There were no funding mechanisms to do that, so we were one of the very first that pulled that together with Lee's support. The other big pr oblem, which still exists to this day, is the business model in the world for ea rly cancer detection is terrible.
It's, you know, the whole story I've heard is Avid Labs has as many trucks as UP S. You just don't see them. They're running around at night picking up blood sam ples. And they're in, to use the tech analogy, it's a mainframe processing model . There's seven huge sites. And the way the government will pay for them is cost plus. So...
Versus I have a blockbuster lung cancer drug, I become a very rich scientist, I get accolades, and I get pharma money pulling. There was no money from industry pulling here. So part of the technology development we did also, and Stanford ha s led the way, is in point-of-care devices where there are disposables and that you can build businesses that are very successful businesses in this field, as o pposed to the old model of I'm going to sell this biology. So the business model is still...
I'm still broken. I'll tell a quick story about my dentist is always interested in what I'm doing in this area. And we chatted one day many years ago, and she s aid, Well, my office is the right place to do this. She said, you come and see m e twice a year. I can take a drop of blood out of your mouth without you even kn owing it. And if I had something the size of a printer next to me, which is what some of these new early detection biomarker platforms are like, I can drop it o n there, run 128 tests. The chip costs a dollar, sell it for 50 if you want. Rig ht? And you can make a really, really successful business out of that. So that's one of the things I've also encouraged is I've done a lot of mentoring to a lot of scientists on them starting their own businesses and being successful. Becau se if all the great minds went to Google, we wouldn't have great minds doing thi s research. Don, is that to say that even if the goals of your initiative are, y

ou know, so idealistic, it's all about helping people, it's all about improving health outcomes, it's all about making sure that other families haven't gone through what your family has gone through. Does there also need to be a level of, I don't know if the right word is cynicism, but world weariness, that money really talks and it needs to be present in all of these considerations for the whole model to work?
Certainly for aid to scale, it certainly has to be. But, you know, if you can start saving people's lives in high-risk clinics, and that is just the wealthy people, but wealthy people got cell phones first. And that's how technology development goes, right? And you prove it out, and the wealthy can pay for it, and then you get the next generation, and it's two times cheaper, which means four times more people, rule of thumb on consumer electronics, can get access to it.
We've got to the point where, you know, one of the big partnerships we had was with Cancer Research UK.
who were told genetics, genetics, genetics, genetics, and they put money into genetics for 10 years and didn't have any change in outcomes. And they came and they started talking to me, and I said, well, here's where we think the leverage is, particularly for you in the UK, because you have a public health system. So if you get something working, you've got the tools, the money, and the infrastructure to roll it out, which is far different than here in the United States. What was most important for you to convey in those early years that...
There was money to be made, this was not a financially losing proposition. What was the case you made and who needed to hear it?
Well...
Originally, the case was just made to funders that, you know, everyone goes on these great binges of excitement on, you know, proteomics and then genomics, and the next thing, and liquid biopsy, if you recall, that was, you know, that's the latest and greatest. We needed to show people that there was a pragmatic way that could begin to save lives. I think sometimes people want all the lives saved. You know, if we could save 10% of the women's lives in ovarian cancer the next five years, that'd be a huge home run. And then 20% the next five years and 30% and so on. So, you know, we're just in those conversations globally with trying to roll out early detection technology.
But we have a very long way to go to convince any government infrastructure because up until now, right, all the questions are, well, here's all these untreated masses, how do you get to them? And I say, we get to them when the technology gets to the price that we can get to them. And the only way that happens is with generation after generation of working on them. Don, I wonder if you can explain sort of the pipeline where you're talking to scientists, they're telling you what they need, and now this eventually goes to biotechnology to create the devices, the diagnostics that give the scientists the tools they need.
Am
Give me that question again. I'm not quite sure what you... The pipeline that goes from you talking to scientists, the scientist telling you what they need technologically, diagnostically, how you take that information and then bring it to biotech so that they create these devices.
How does that pipeline work? Most of them to date have been...
Through, the Stanford ones have been through startups through venture, so, you know, we'll work on some program, and we're very careful about not getting financially involved in any of these things. We don't want to have any view of conflict of interest. Early on, I did a couple of investments, and a couple of my donors came back and said, well, are you using my money to sort out what's the best thing for you to invest in? And I said, no, but I can see how that might be viewed as a conflict. So,
The startups that are coming out of Stanford right now are coming through the typical venture channels where we helped. And the money that we put into their lab, we don't get any percentage of. It goes to Stanford, it goes to the School of Medicine, and it goes to the researcher themselves.
Was your idea for Canary, would there be any scientists that were directly employed?

It would always be external partnerships.
They were always external. We employed young PhDs that became program managers. So as we grew, we grew different team structures. We started with ovarian, which I can talk about, not because it was my mom's, but because the team thought it was one of the most challenging ones to work on. We then ended up, were found by a family in New York where a well-known banker had died, you know, was a marathon runner, died in his 50s of lung cancer. They wanted to start a lung cancer team. So that's how that team started. The prostate one we talked about was with Frank. So we would convene those teams. They would talk about what the best problem was. And so to our earlier conversation, the problem the prostate team said they wanted to solve was helping doctors and patients decide whether they should get treated. So in prostate cancer, you know, a quarter of the men, you're fine. You should be careful, you should be diligent, but it's not going to progress. The quarter on the top end, you got to go to surgery, radiation, whatever, right away. The big public health problem was, what do you do if you're a man in the middle? And so that was the problem that the team tried to work on.
Because if you could convince people who didn't want to go to therapy to go to therapy, you were going to save lives. And if you could tell people they didn't have to go to therapy and couldn't they were going to, you could save a lot of morbidity. And so those probably, it really depended what problem the team they thought they were going to solve. In the case of both ovarian and pancreas cancer, there are two pretty good blood biomarkers. One's called CA125 for ovarian cancer, and one's called CA199 for pancreas cancer. The problem is that the incidence of the disease is so low that if you do your statistics, the false positives are crazy. So this is where Dr. Gambier said, this is where imaging has to solve the problem. And we've been working on a molecular imaging program for 15 years with the idea that you inject a body with this particular substance, and it goes and finds cancer vasculature. And Avastin from Genentech here locally, knew all those targets because they were targeting drugs with them. So we didn't target a drug, we targeted a little bubble that when you put an ultrasound over it, it vibrated, and then it burst and you could see the cancer and you knew it was specific. So to this day, we've just opening a new center at UC San Diego for...
early cancer imaging detection using ultrasound with a young, used to be a staff scientist at Stanford, Hamid. And so each one of these, if you looked at the care continuum, you said, what's the big missing piece? So in ovarian and pancreas, it's imaging. And in lung cancer, it's also imaging. I mean, the way you handle lung cancer is you get a CT scan. The doctor doesn't know whether or not it's cancer or scar tissue from asbestos or whatever else. So the protocol is you wait 90 days. And your chance of living if you have cancer goes down from 50% to about 10% while the doctor waits 90 days to figure out if it's cancer. So how do you do a test structure that says, no, damn it, it's cancer, go pick up the scalpel. So each of these, we examined the care continuum, what was out there and where you could insert and provide some leverage versus saying, oh, it's the utopian dentist office thing. And we'll genetically change babies to get rid of their bad gene structure. I think we were pretty practical on where was the leverage in the care continuum. Dan, you said something very interesting earlier about getting started focusing on ovarian cancer, not because of your mom, but because it was so challenging.
Fascinating there. Why not go after the low-hanging fruit first? What's the science? What's the investing philosophy behind that?
That's what the scientists wanted to do. Easy as that. It's as easy as that. And Nicole, who I talked about, she was also part of that team. And we convened the first team and discussed a variety of these different things. And I think there's some pretty big minds and some pretty big egos around the table. And they said, let's see if we can crack this one.
I think it's as simple as that, David. And is that to say, Don, that you always let the scientists take the lead, that what they want to do is what you want to do, or are you ever sort of at the forefront of saying, I think this is what we should work on?
Well, at this point, I...
I have some rules of engagement, and, you know, back to the, we've already learned this, I'm not doing that again. So, you know, some scientists want a blood te

st that's perfect. Well, they don't exist yet. So why don't we find one that's s pecific, and what that means is, we know it's cancer, even though we're going to miss some, we know the ones we got are cancer for sure.
And so there were guardrails, and of course, after 25 years, I know more than I did at the beginning.
So I trusted Lee in particular and Sam to really help guide scientific principle s, but I was the one.
I'm trying to think about how do we get other people engaged, and then how do we bring this to market, not as a company, but through other vehicles so that it u ltimately can be successful. And...
So that was the role I played. Don, as Canary was getting started, how did you r efine what role you saw it playing in this larger ecosystem? In other words, at the beginning, you have all of these ideas. What did you learn about what Canary 's lane should be, where it should leave other aspects to other organizations, a nd where you saw a real opening that nobody was doing this? I wonder if you coul d walk me through that.
Well...
Добрый день!
Certainly, most all of the money in cancer is in therapy and drug development, a nd that's still the case. And when you go to the National Cancer Institute, and I was on the board of the scientific advisors for five years, the early detectio n group is rolled in with the prevention group. So it's the poor brother to prev ention. So there's not, there's not much money at all. So it was pretty easy to be the only one that said, we're going to do this, because the big pots of money in diagnostic company, they go, well, we're just not ready to do that. Now, to this day now, and I'll digress a bit, the prostate team has been doing this clin ical trial for 15 years on that sorting out what men should go to therapy or not . There's a calculator now that men and doctors can put in, and with 99% certain ty, know where they are in this process. Now, we have hundreds of thousands of s amples. That program probably cost $30 to $40 million so far. Now we have biotec h companies. So now there's biotech. There really wasn't biotech to think of 25 years ago. We sell them our samples.
And the outcome we're looking for is, they actually get a test that works. They just didn't have the samples because it takes forever to get these done. So, you know, why didn't anyone else do it? I think because...
People worked on it and failed, and then there was none of this big economic pul ling. Now, in the future, fast forward, the two huge successes on this, CRUK, wh ich we talked about earlier, decided to shift and make early detection one of th eir anchor programs and bring their money and clout to it. And the other big thi ng that happened in the U.S. here in the last decade is Phil Knight of Nike fame .
One day, he came to a podium and surprised everyone and said, my wife and I deci ded to give another billion dollars to Oregon State Hospital System, but we want it focused on cancer. And a very famous doctor, Brian Drucker, got named the di rector, and he surveyed the world. And Brian came back and after talking with me and a host of other people, went to Mr. Knight and said, early detection's the right low-hanging fruit for us right now. And so there's a giant institute up th ere that's working on early cancer detection. Is Canary a part of that initiativ e? What role do you play in this?
Sam and I played a role in convincing Brian that early detection was the right t hing. Sam and I played a role in convincing the leadership team at CRUK, and the n, you know, it's at Cambridge that the major cancer work is being done. There's a couple of actually Stanford people that are leading that effort now, and I do , I do, I'm gonna call it sales calls. They had somebody who wanted to give 25 m illion to the program.
And I said, let me tell you, here's my unbiased view of this. I'm not gonna get a nickel, but let me tell you how this helps the overall ecosystem. And we manag ed to land that donor, they did, and get that program going. Similarly to this b ig new foundation that's got this interest in early cancer.
They said, well, should we give the money to you or give it to Stanford? And I s aid, look, for the beginning of small money,
I have IP agreements done with everybody. I have a great gift agreement done, wh

ich I don't think in today's day and age anyone's gonna get the low percentage o f overhead that we have. So I said, start with me. If you wanna give $25 or $50 million and you think Stanford's the home for it, I'll be the first person to gu ide you through the process and where the pitfalls are. I'm just interested, I m ean, we started with, you know, six guys and a goat, and, you know, we are now t he legions of thousands.
Dan, you mentioned calculations. Inevitably, this prompts questions about your v iews on machine learning and artificial intelligence, which is obviously a very recent development and potentially is revolutionary for the field. What are your perspectives on what AI can bring to early cancer detection?
Well, I'll go back. You said machine learning and AI. I'll start with machine le arning, and the example there, which I think is the one that I lived through, wa s in the stroke world.
And so the company that was started actually by my father-in-law and two Stanfor d scientists, Greg Albers and Roland...
Roland Cheese, I just got... We'll get into that. We'll come back to it, no prob lem. We'll come back to it. Dammer, Roland Dammer. They started doing machine le arning on CT images for stroke. And we got to the point where the crossover happ ened. The machine was much better than the doctors. And that just happens becaus e the machine learns the next one and the next one and the next one. Where you w ant to call machine learning and structured machine learning, unstructured, in t he whole AI continuum, that's a whole discussion. But that started as long as 10 years ago.
And it's already there. Another example that's happened is we run as a family an eye clinic in Belize. So we, there's no healthcare in Belize. So we built this eye clinic with the help of a doctor who's a neighbor and Stanford, who's design ated a global health program. But, and we rotate doctors through there. But what we've done is there's AI cameras now. And so we have a technician, just like if you go to Lenscrafter and you put your chin in and it takes a picture of your e ye and it sends it to the cloud, and it runs what I'll call machine learning, bu t they call it AI, and comes back and says, you have diabetic retinopathy, and, you know, you better go start working on knocking off the Coca-Cola because you' ve got bad diabetes. So it's already happened. And the third story is Gary Glaze r, who used to be the chair of radiology, he said, well, the first practice to g o is gonna be pathology. And he said, the second one to go will be radiology. An d I lived the radiology stuff because in Rapid with stroke, the neurosurgeons wa nted the tool because the hospitals would make $50,000 to $100,000 per case. I m ean, the numbers were just egregious. And the radiologists hated it because they saw the fact that the neurosurgeon didn't have to send it anywhere. So, you kno w, I think that that development will come where we'll just improve outcomes, im prove outcomes. And in the case of Rapid, the major thing that that team did, wh ich was not my doing, but I helped scale, was the global standard for stroke was six hours. And after six hours of a stroke, they wouldn't give you care because they thought you were done. And what the clinical trials with this technology p roved is you can have mini strokes, as you might imagine,
And up to 24 hours. So the global standards changed because of this technology. The company grew rapidly, as you might expect, during that time. But there's no question in imaging and pathology, that's where we'll probably have the biggest impact to start. And do you think, you know, the idea that the machines are comi ng for the jobs, does that mean that people who now work in pathology and radiol ogy, is it, is it that they're going to be out of work? Or is machine learning o ptimizing them to do what humans will always do better than machines?
Oh, I think it's the latter. I mean, I do think it's always going to be the two together. But, you know, reading, like, the pathologists on the Canary group. Reading the slides at...
15 different institutions, there was the inter-reader variability was just incre dible. All of a sudden you'd just give an algorithm and you send the algorithm t o all 15 places and you get, whether the data is good or bad, it's all the same.

Right, and so I think in pathology for sure, it will vary very rapidly.
Change that field. What the mix is, I don't know. I mean, gosh, I was in the Uni

ted lounge last week going to Belize and a robot came by picking up the glasses. Great big world. Right? The people weren't gone, but they weren't doing the bus person work. So maybe a practical example of how the mix changes. I don't know enough about pathology to tell you how the mix is going to change or radiology for that more about radiology, but the mix will certainly change. The machines are faster and better. Don, obviously, you're a sponge for knowledge. You do have a technical background in electrical engineering throughout your career in finance and technology. When is it important for you to read up yourself on cancer biology, on the technical literature? And when do you rely on, you know, your trusted partners, the scientists, the doctors, who basically tell you what you need to know?
Hi, it's a mix. I still read a lot, and, you know, I don't read very many novels because I read a lot during the day. I'm like, you know, put on Reacher on Amazon or something for me. So I do read a lot. And then our teams generate a lot of technical data. But, you know, when it comes to the teams, these guys are world-class scientists, and they do it every day. So I guess it's sort of 50-50. Dan, I want to ask some sort of macro political questions about public policy. And let's start first with, of course, your dual perspective, the Canadian healthcare system, the American healthcare system. What can each learn from each other? Let's focus first on the positives. What do you see as the best in Canada, in the United States, specifically as it comes to early cancer detection?
Well, I think, certainly on a funding level, you know, we still are doing better at NCI funding for early detection in all cancers versus in Canada, for the UK for that matter as well. The government doesn't fund much of any research, you know. What they fund is the public health care system, so they have to rely on people like Cancer Research UK and others. You know, I grew up in Canada, and my family's in Vancouver now, and my sister's a nurse, and she'll tell you at least on the day-to-day care and watching my mom go through it.
Things are slow.
But they're ubiquitous. And things here are fast and expensive. But I think technology is the thing that will change in the United States, where if it's 50 bucks in the dentist's office some 10 years from now, I think that we will adopt those technologies very quickly. You know, an example on one thing that happened in Canada with one of the teams, the ovarian team, one of their big successes is the discovery that the fallopian tubes are really the primary source of serous ovarian cancer, which is the most deadly of the ovarian cancers. And that was discovered, as all ironies in the world, by the surgeon of my mother. So, you know, unbelievable. The poor woman, you know, came out and said, I can't get it, and my mom died, and then we funded her anyways. But that practice was...
absorbed into Canada first because taking out the fallopian tubes takes five more minutes of OR time.
And that is an expense. And in Canada, they went, yeah, well, we're going to do that. And it's only now that that's translated into U.S. care because people are pushing back on the five minutes in the OR.
So, you know, one is a little bit altruistically driven, but clunky and slow. And, you know, on this side, very financially driven, can be very fast if you're wealthy, and is terrible if you're poor. I mean, you just don't get any care, as you know. So in the best-case scenario, the Canadian and American systems would absorb the best of each, where it would be fast and ubiquitous, if I understand correctly. Is there an international model? Is there like, you know, a Finland or a Sweden or a Japan? Is there some society in the world that is doing a good job in both of these areas?
Em...
Not that I know of.
I think it's one or the other, you know, the Scandinavian countries are well known for their healthcare systems, but there's no research money and very little innovation that's going on. So, you know, China is a huge opportunity. Like our lung cancer program, we ended up with a biomarker panel, five different things that determine lung cancer. And that clinical trial is now being funded by the Chinese government because it's 10,000 people. So I suspect because of both their commitment to machine learning and AI in China, the enormous number of people and even being able to cull the rich people in, we'll have big impacts in China in

this field in the coming years.
I wonder if you can walk me through, so, you know, it's unfortunate that there i sn't a perfect country out there that can be a model. Let's say you weren't the founder of Canary, let's say you were, you know, the builder of a new country. What would you want to see? What would be the public policy initiatives that wou ld get people into the clinic, that would encourage a culture of going to see yo ur doctor, that would produce the kind of outcomes that you dream of?
Wow, David, that's a big question. I have never started a country, so...
Certainly, you'd want to focus on access.

For people
As it pertains to early detection, you know, Pap smears are, of course, a very i mportant early detection test, and some cultures just...
Aren't having it. And in some cases, in Mexico, they figured out if they go with mobile pap smear run only by women in buses to the church, that they can get. S o there's, there's, you know, no one size fits all by culture or by country. I t hink you just have to be mindful of...
who you're dealing with and what their issues are. You know, right now...
Colonoscopy is the gold standard. It's not that, I mean, people think it's a ter rible procedure. It's not. The prep is no fun, but the procedure itself...
It's a twilight experience and you're in the lobby. So I would just make sure th at both information and access were out there, and we still are failed. I mean, my God, my cousin died.
Five years ago in Canada.
Guys, and...
And some of the public policy stuff gets tied up in the cost of doing this, and so you take a hard look at what public policy is, but the sad news is a life has a price, and that's how many of these decisions are made in terms of whether we deploy these tests. So let's delineate that in terms of what public policy can do to encourage people to go see the doctor. Let's delineate that by what should people be doing who are non-symptomatic, and this is just sort of protocol, and what should people be doing who are symptomatic?
In terms of the government encouraging, providing incentives to get people to go . Well, let me back up once and say, look.
We want to differentiate not so much, at least in early detection, symptomatic v ersus non. If you're symptomatic, go to the damn hospital, right? Or go to the E R or go to your doctor. But with the genetic tools that you referred to earlier, we now have like three, about two big buckets of people who are normal risk, we think, and then we have two buckets of high risk people. We have people with fa mily histories, two or more people with breast or ovarian cancer, you're high ri sk in your family. And then we have genetic testing, BRCA1, BRCA2, a whole varie ty of different genetic weaknesses in the body. Well, that's where we want to st art. So if I started my country, I'd be more focused on how do we help people un derstand if they're high risk and get them into the care path, as opposed to goi ng, well, you know, I don't want to do that. And if...
If I had convinced my cousin, which I didn't, that he was high risk because he h ad, my dad had it, and I maybe had it, he might have been able to get care. But I think in that case, he ran up to the barrier of he wasn't 50 yet. And when he turned 50, he got the colonoscopy, and then there he was with stage four colon c ancer. So part of where, you know, where we're focused is, can you bring these t ests, at least in ovarian and pancreas, to the high-risk community because you c an delineate those both genetically and from family history.
Don, what do you see as the future? What do you see as, you know, all of the thi ngs that you've learned? What's most important to emphasize 2025 looking ahead?
Well, if I, let me...
Phrase the question this way, if I had to bet on where the best outcomes would c ome bang for the dollar, it would be in molecular imaging.
I really think giving surgeons tools, with pancreas cancer, the confounding issu e is pancreatitis. If we could even do imaging that said, oh boy, you have pancr eas cancer, not pancreatitis, that would move people down the care path much fas ter. With ovarian cancer, imaging can do it. With prostate cancer, it's becoming clear that imaging is really going to help. I mean, my God, if you understand h

ow a biopsy is done on the prostate, blind someone poking your prostate 12 times with a needle where the sun don't shine and doing it blindly, now image-guided biopsies there. So if I had to say where the technology that will, at this next 10 years, make a big difference, it'll be in imaging. And much of that imaging needs AI imaging, of course, to be successful. But that'll be the tool that we'll put in the quiver that we don't have right now.

Don, I think the last thing we can cover in today's discussion, it's really, you know, it's unfortunate, it's in the headlines, the, you know, federal government funding for cancer specifically is, is, is...

It's a grave situation right now. So first, how did we get ourselves to this position, culturally and politically? What's the way forward given what's happened so far?

Well...

As I understand it, it's not just cancer, right? It's the National Institute of Health has some 30-odd different institutes, of which NCI is the biggest at about a quarter of the budget. And that all happened through the Clinton years, where as president, he increased the NIH budget radically. So the money was there. Where I think the community lost its way is the way it works is that if I get a grant, an R01 grant, let's call it, where as a scientist I get $250,000 a year for three years, my institute gets the overheads associated with their institute paid by NIH. So I'm going to get the 750K over three years from NCI, but NIH is going to give Stanford 60% more of that. What is that? 450 grand. Well, it got a perverse incentive got created, which is if you could get away with convincing the panel that you needed those overheads, they give them to you. Well, all of a sudden, so on one side of the coin, you'll have people argue, well,

My scientists don't have to do photocopies anymore. My scientists have grant writer support because of the overheads. The Fred Hutch is 73%, for gosh sakes. And I used to argue with Lee because I'd say, you know, he'd give me the photocopier thing. And I'd say, Lee, at Cisco, our overheads were 4%. And the first CEO, John Morgridge, had an assistant that he shared with four people. And he'd photocopy his own stuff. And I'd say, John, why are you doing that? He said, because I only need two. And if I had an assistant, I'd probably do 20. And so it's a little perverse.

Do I think there needs to be a better structure? I do. I think, like many things that are happening right now in the administration, it's too draconian. If you said to people, look, we're going to get to 30%, and you've got three years to do it, I think people could absorb that, understand, start making changes in the hiring practice, the level of buildings that they build, and the like. But right now, in our community, people are gobsmacked. They don't know whether to you-know-what or steal second base. So people are kind of frozen. They don't even know if grants today, on March 25th, that they've been awarded are going to get the NIH funding pulled from them. So it's frozen the whole community. Do I think, like many things the administration are doing, I think directionally, perhaps correct, but the way and the brutality is just, you'll never get the proper result that you're after. Is that to say, Don, that already we're seeing the negative impacts?

That we're already seeing experiments on hold, that there are cures and therapies that might not happen because this has already taken place? There's certainly hiring freezes and building, you know, addition freezes and the like. So at an inf-

structure level, yes. You know, will it stop a drug development pipeline? That I can't comment on. I doubt it. You know, with the pharmacy money pull, but it's all institutions are reeling from this, especially the big ones. I think Memorial Sloan Kettering is closer to 80%. So I don't know how you lose half your budget without losing a bunch of productivity.

Don, the irony in all of this historically is, you know, you got involved, you brought your own success and generosity to this at a time when federal funding was ascendant. What's the message now if, in order to close this gap, if it's not coming from government sources?

Where do you get it from? What is the role of private benefactors? Are you in to

uch with people who have the means to do what they can at least to backfill some of these budgets?
Well, yes, and, you know, the best example is the Bill Bowes Foundation continues to support us, and at an annual level, we renew with them. This new found big foundation, you know, I mean, just to be very candid, many of the major donors we have have passed over the last five to seven years as they were in their 80s. But yeah, we continue to fundraise and reach out.
But private will never be able to replace 60, or let's call it 40% of $30 billion. I mean, that's the shortfall. So it's at least $12, if not $15 billion a year. What my current approach is, if I continue to fund certain labs, they're going to continue to be able to move forward independent of whatever happens in the administration because I provide some certainty. I can't provide complete certainty, but I can provide certainty that this new imaging lab is going to be funded for three years at UC San Diego.
Finally, Don, last question for today, the idea that, you know, imitation is the finest form of flattery. Given how unique the founding vision of the Canary Foundation has been,
Where have you seen others sort of take up that model? What have been sort of sister organizations or parallel endeavors that have been inspired by what you've accomplished over these past 25 years?
Well, I think the two I already referred to, one is the Oregon system, and they have a very unique model, I'll just add, where they don't go for government grants.
The billion dollars, you come in as a scientist and you get your full budget, and away you go. Cambridge is the other one I'm very proud of, but we've now, there's now initiatives at MIT, there's initiatives at Harvard. So...
The word's getting out, David, that there's an opportunity here, and what I think was viewed as an intractable problem 25 years ago is viewed as, we can get there from here. And then we'll wait and see to your AI question.
Are we gonna be able to create inference models out of the biomarker lake that gets developed? Maybe we can. I don't know. Wouldn't that be amazing? But right now, you know, as I said, you know, six guys and a goat, we're thousands of people that believe that we can get this done. And we have industry now pulling and we have environments where the scientists can also make money if they're so entrepreneurial oriented. Don, is that to say that now this problem is no longer viewed as intractable, thinking back to where you were in the late 90s, early 2000s? Is that the greatest success of this whole story, just moving the ball forward where so many people share your vision that we really do have a handle on this now? Yeah, it's exactly right. I mean, early on, we gave postdocs to the American Cancer Society in early detection because no one would come into the field. Yeah. So we lured people into the field. Now, I think they believe, indeed, the success that they've seen. So, you know, the water's warm. Come on in. That's great. Well, Don, this has been a wonderful initial overview conversation. Next time we'll go back. We'll develop your own personal background, the all importance of your family's experience to what you accomplished next. We'll take the story from there. Thank you.
All right, you're very good at this, David. Made it easy.

Episode 2 - April 2, 2025
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Okay, this is David Zeiler, Director of the Caltech Heritage Project. It is Wednesday, April 2nd, 2025. It's my great pleasure to be back with Don Listwin. Don, it's great to see you again. Thanks so much for joining. Thank you. All right, Don, in our first conversation, we took a wonderful wide-angle lens to your career, to the issues that are most important to you. Today, we're going to go back and establish some family history. So let's start first with your grandparents. Did you know, were you lucky enough to know all four of them?
Three out of four.

So on my mother's side, my grandmother's name was Olive, Olive Urton from Englan
d, and her husband, Charlie...
died, I think, when I was two.
of cancer related to mustard gas from World War I.
So he was in the cavalry, and to this day, I have his footlocker down in the hou
se at Lake Tahoe. It keeps all the table tennis supplies. So I knew my grandmoth
er on my dad's side, yes, Polish-Ukrainian.
Grandpa John and Grandma Anne, and they were interesting folks. My grandfather d
idn't graduate, I don't know if he graduated elementary school, I don't think so
. And in the Depression...
He decided to put sugar water in a bottle.
So he got, I think, was the fourth or fifth Pepsi franchise.
In Canada.
And that, it turned out to be an incredible business. It has gross margins like
software. And the nice thing is, is that just about anybody in your family, no m
atter how dumb they are, you can get them a job. Whether they're lifting a case
or selling a case or doing whatever. So grew up in that family. My dad was an en
trepreneur, soft drinks, dry cleaning business, food businesses. So good upbring
ing.
How many generations back does your family go in Canada? Were your grandparents
first generation?
Yes, yeah, they were first generation. I did meet once my Polish side, so it's P
olish-Ukrainian on my dad's side, and my great-grandparents came over for a very
 short visit once, but I think they all emigrated, you know, in the early 1900s.
 Do you know the story where they got to, how they got to Canada?
I don't, and you know, I was all set to go to the Ukraine and explore that. And
I put a hold on that for a little while. Good idea. So we're not sure, like, we,
 I think...
The Listwin, my last name, was either Listwinovich or Listwinski, and it got tru
ncated as they came in to the country.
But it's clearly, you know, of course, 23andMe currently.
defunctish
clearly, the heritage is Eastern European through my dad's side and English thro
ugh my mom's side. So let's now go to your parents. Where did your dad grow up?
Oh, both sides...
All these people I'm talking about grew up in a town called, the city called Sas
katoon, Saskatchewan. Saskatchewan is in Canada. It's north of North Dakota, Mon
tana, about a million people.
Total, Saskatoon is probably, when I grew up, 125,000, 130,000 people. And just
given the whole thing going on with President Trump and the like, probably has 1
0% of the world's fresh water. So both your parents grew up there.
Yes.
And they met in high school.
What were the neighborhoods? What was the socioeconomic situation for both of yo
ur parents?
I'd say lower middle class, you know, as the Pepsi business grew, it ultimately
became a family business with a $10 million top line and a really good bottom li
ne, because, well, not for the transcription, but there was a lot of cash that f
lowed through those kinds of businesses. I remember one day we were at...
I don't, you're not probably old enough that you remember these pop shops.
So back in the day, in the 70s, back when things were getting tough in a recessi
on, the Coca-Cola company said, we're never going to do anything but a 10-ounce
bottle on the shelf.
And some competitors came and said, I bet you people would come and buy a case.
of 30-ounce bottles, and
And so he started doing that. And then one day I worked there always in the summ
er. I played volleyball. Well, I have to show you my new medal. I just got my ne
w medal. I don't play volleyball in high school and in university. And so workin
g at a soft drink factory was incredible because you'd lift a quarter of a milli
on pounds a day easily as you moved things around. So that was good for jumping
skills. But you'd have the Hutterite farmers come in and that was their one indu
lgence was soft drinks. And so they'd pay you with two cartons of eggs and one c

arton of eggs had fresh eggs from hen in the morning and the second carton had $ 20 bills rolled up in the carton. And that was the business in the 1970s. So I s pent a lot of time working in soft drink factories. I probably started driving f orklift when I was 13. Oh my goodness. What level of education did your parents achieve?
My mom graduated high school. My dad told the story about how he failed his last exam and didn't graduate, which I think is malarkey. But, you know, mom was the brains, dad was the brawn. She was very smart, very good at math, ran all the a ccounts, all the books, even to the point where when...
She was dying from the cancer, which we'll get to. She told me, Don, here, I've hidden the million dollars away from your dad so he doesn't spend it on silly st uff.
Now, Mom was great. She was my best friend. Do you know the story of how your pa rents met or where they met? You know, I don't. I do know it was in high school. I do know they got married pretty quickly. I have an older sister, Louise, that lives in Vancouver in Canada. But yeah, not a whole lot.
Of the history of my parents, do I know. So your dad got involved with the soda business right out of high school?

A
No, well, yes, he went to the family business for a while, but then he didn't wa nt to stay there. He had...
He was the middle son, so older brother George and younger brother Ron, which is 10 years younger, which was probably not planned.
I think he wanted his own space.
So he and George went away and they started a dry cleaning business.
And so one summer I drove dry cleaning delivery and pick up for him. So always d oing that. Then that was going pretty well, and so then he had an idea to do a g rocery business. It was called Capital Food Markets.
And he did that for a number of years, tried to start a second, and it failed, w e're told, because they could never cut a profit out of the meat department. The meat was bad.
And long story short, the understanding after they shut down is there was a time r clock no one knew about, and the freezers were going off and the fridges were going off at midnight, coming back on at four, and that was just enough time to screw that up. But then he started the Pop House, which was the competitor, the wholesale competitor, to the Pop Shop.
And then ultimately, Pepsi forced...
the family to sell the business, which was a travesty because it was such a good platform for everybody. I mean, it probably employed upwards of 150 people in t hat kind of business. And the dynamic had just changed where the business had be en protected because we did glass.
And recycling. And the legislature said, we don't want cans. And finally, cans g ot to a point where they were more recyclable. And so the economics on shipping a case of soda in a can is about 10 times easier than shipping a case of glass.
So Pepsi said, hey, you have, we have 80 franchises. We're going to consolidate to 8 or 10 or whatever the number was, and force the family to sell.
to Winnipeg and consolidate there. Don, what year do you enter the scene?
I was born March 22, 1959. My mom's probably 5'1 on a tall day, and I think I wa s 9 pounds, 14 ounces, so.
Good work, Mom.
Now, your upbringing, were your parents pretty well off by the time you arrived?
You know, I would say no. We were middle class, but moving forward.
We lived in a pretty small house.
And as the Pepsi business and the soft drink businesses started to grow,
Then my dad decided that he wanted a bigger place for us to grow up as a family. He bought up a plot of land and, apropos to Raymond, he started, he became the general contractor himself and built it.
We were one of the very few, at the same time he was building the Pepsi plant.
And my uncle was a mechanical engineer, and so my dad said, you know, design the plant. And he said, I don't know anything about it. He said, well, what should I do? And Dad said, start with a straight line on top and then make one 90 degre

es down and keep going. So there were extra materials and things left over.
And so he decided to build a pool, which in Saskatoon was pretty rare because it 's probably minus 32 there right now. And so we hand-built this pool. Like, you know, there was a backhoe to dig the hole, but with one carpenter, we built the frames.
Poured the concrete, did the aggregate. I remember wearing plastic bags on my fe et, you know, putting muriatic acid to seal the aggregate around the pool. So it was, but at that point, the soft drink businesses really took off.
And,
You know, Coke came around. There was there was no Pepsi competition. There was a Coke competitor.
And the two fathers did turn the businesses over to the sons, the co-father and my grandfather, and that's when the money started flowing into the family. And t hen like any red-blooded aggressive guy, they started fighting with each other u ntil there was the famous...
duopoly meeting where the grandfathers took all of the sons by the ears and sat them down and said, Let me explain to you what a duopoly is and how it works.
Stop beating up on each other.
You know, you can have 55% market share this year and we can have it next year.
So it sounds terrible, it sounds like the mafia, but...
Those as I said, those businesses were very profitable.
And so that's when I'd say we went to upper middle class. About how old were you during that transition?
Yeah, around high school, you know, I ended up...
I ended up accelerating back when they did that, so I did first grade through fo urth grade in three years.
And I got invited to go to this
you know, special experimental school.
And we were just moving into that new place that I was talking about on Harvard Crescent. And I got an offer to go to this school, and the unique thing about it is it was a...
free-ranging, wide-open...
Not a structured educational program, almost learn at your own rate, but at the same time, there were mentally handicapped kids that were there, and the...
The hypothesis was to see whether or not in a social environment, not an academi c environment, that that would benefit one or both classes of kids that were the re. They never did come to any real outcome, but, you know, we'd eat lunch toget her, and we'd play sports together, and football and things, and that was, yeah, King Edward High School for four years.
And that's when, actually, we talk about history.
We had no sports. The only thing we had was an ice rink, and there was no gym or anything, so we would go to the YMCA Friday from 9 to noon, and that was the ex tent of any kind of...
Any kind of sports.
So I ended up going that one Friday, and I ended up seeing the table tennis play ers.
And so the Saskatchewan table tennis team played there, and so I joined that tea m, and in 19...

I can go look at it.
and I became the junior champion.
the junior table tennis, but that was, you know, people don't understand the dif ference between ping pong and table tennis. Table tennis is, I practiced five ho urs a day for, you know,
And I played the national champion once, and I think he gave me one point. So, l ike the tiering of excellence is pretty, and like any elite sport, it just chang es radically as you go up the stack. Don, that gifted program, did you score par ticularly well on a test? Did you catch the attention of a teacher? What was it? Well, you know, in one through four,
I apparently scored...
off the charts on all of that stuff, and then once I was accelerated, I was flag ged, so now, that's all I know.

Doug, were there any important religious or cultural events?

observances in your house growing up?
No, you know, my mom, my mom was, you know, part of the Boston church and...
Early on, we got taken to church early, but no, you know, I think...
There was a pretty good separation, which I still preach to my kids, the differe nce between faith and religion. I'm not a big fan of religion. I think it's some of the best pyramid schemes in the world.
You know, we talk about way back in the day where the really smart people who do n't own any land said, what can we own?
I know, a piece of someone's mind. That's what we'll own. So, no, no, not much i n that way.
I have faith in a variety of things, but I really am not a big fan of organized religion. Did your mom work in the business? Did she stay at home? Did she have her own career? She stayed at home, but she was the bookkeeper. So she, you know , would get us to school and then she'd be down in the office doing the books fo r tip-top cleaners, it was called, or capital food market. So she did all of tha t, you know, the general ledgers and all the accounting. Don, would you have had a sense of your parents' politics? Would they talk about, you know, the Prime M inister or the Vietnam War, things like that at the dinner table?
No, you know, Dad came home pretty tired most of the time, and his MO was, you k now, eat dinner and go downstairs and veg out.
We did talk about taxes, I mean, and I, you know, I hold the same thought at thi s point.
Up to 50% is okay.
After that, why am I killing myself doing this? Like, I mean, right now, I think my marginal tax rate, even though I don't pay it in California, is 57%. And so we talk about that, and we talk about, you know, business and go do it and get i t done. And don't, don't let anything stand in your way. And I've learned that f rom my dad because he just, he could be a bull, and there's two sides to that, t o that. But he was, he was hardworking, dedicated, and determined.
Done working in the business, was that more your own initiative? Was that an exp ectation that was put on you?
Well, if I wanted a vehicle, it was. There were no free cars or, you know, anyth ing. My first vehicle was an old Chevy.
delivery van, white delivery van, that I had saved money and I put, this is prob ably terrible, I put red shag carpet and black velour on the inside and a speake r system and a hidden compartment for your booze. And that was my first vehicle and, you know, couldn't go any more than like 50 miles an hour and um but then I , I worked at the soft drink factories and um and then my first purchase at the house is I said, Mom, I want a pool table. And she said, well, I'll get half of it.
And so I bought a pool table, so I'm still a pretty good stick these days. And.. .
And then I finally got my Firebird.
And I wanted to keep my van, and my dad said, nope, there's one parking lot in t he driveway.
So I sold my van with a tear down my eye and got my bright blue Firebird. So all this is to say that even as your family was starting to make good money, you ce rtainly didn't grow up spoiled.
No, no, I mean, we, you know, we...
That's a very fair statement, but we didn't want for anything either, right? I m ean, you know, there was always, and we would go, you know, family treat as we g ot older, more into the late teens, always do a Hawaii trip that they treated us to because it was always freezing cold and people tried to get out of there.
And, you know, and as time went on, they would help with things like, you know, dad's...
Christmas gifts were always a, you know, half an inch of $10 bills or something. And that was sort of, he said, I don't know what you want. So, you know, never, never, but with him, you know, with that, I mean, Dad was old school, right? Wi th table tennis, I got to the point where I had to travel.

to Calgary to compete.
That's an eight-hour car ride, and I was fourteen. He's like, I ain't doing that.
So that's when I started playing volleyball, and then...
Well, that's my...
My team just won.
The team I host back home just won 3rd place at Nationals, so they sent me here on their flight. So I hosted them.
A million years ago, when we were playing, I was playing for the University of Saskatchewan.
We came down to the U.S. to play some U.S. teams.
And it turned out to be a storm of the century, which was not good logistically, but then we would go.
Well, we just got annihilated, like, but it was so many different factors. The gyms were so much bigger, the balls were different, the rules were different. We were totally unprepared.
And we ultimately won the national championship that year in 1979, so I have my medal on the wall. And so I got to know the coach recently there, just having gone back to Saskatoon to visit some friends.
And so I started supporting them. And so we did the same trip. I brought them down for a week in December this year. And they just got smoked by Pepperdine and UCLA, and the coach said it was awesome because it was this huge wake-up call that while they were competitive with just about everybody in Canada, there was a whole new level to be.
And so now I'm going to do scholarships for them, and David, a scholarship for a volleyball player at the University of Saskatchewan, one year tuition, is $8,000 Canadian or $5,600 U.S. That's pretty good. That's a lot of bang for your buck. I did, yeah, I did buy them some, so I tried to do half the team. So anyways.
Don, being around your father, just to foreshadow to your own achievements in business, did you learn from him? Did you learn what it takes to succeed in business from your dad?
I learned the hard work and dedication part of it.
You know, I mean, it was a 6 a.m. to 6 p.m. job, and...
And I learned that, and I learned, I learned he was very creative. Whenever, you know, a soft drink factory is a giant electromechanical series of systems. And he would not be shy with calling his machine shop guy and saying, you know, this would be better if this thing twirled this way instead of that way. And they'd make it. So, you know, I learned, I learned, I think, that creativity from him.
And, and as I said, just, just the hard work part of it. I mean, fast forward to Cisco, you know, I was in the office at 5 a.m. and was there till late, and then when you could work from home, you know, it was 5 to 10 p.m. on a daily basis. So I learned that kind of
work ethic from him.
How old were you when the Pepsi franchise had to end?
Yeah, I was in, uh...
Sadly, I wasn't old enough. If I had known more, I could have helped there. So the answer is, I think, late 20s. And the opportunity was that the franchise was granted in the 30s, 1930s, in perpetuity. So Pepsi really didn't have a right to take it away, but they strong-armed everybody, and everyone got afraid, and they said, well, this big guy in Toronto tried to stop. Well, the way a soft drink is made, it starts by concentrate that you buy from Pepsi-Cola, and they ship to you, the magic formula. Then you add water, and then you add sugar and bubbles and all that kind of stuff. So they just stopped accidentally shipping concentrate to people who weren't cooperating. So all of a sudden, you would make soft drinks weekly, and all of a sudden, you're out of inventory. But that would have been...
An easy media play for me today, but, you know, they didn't know. And unfortunately, they thought they, the family thought they were going to have a chance to have a bidding war between Calgary, which was on the west, and Winnipeg, which is on the east. And Pepsi said, no, we have a master plan and you get to sell it for one-time sales to Winnipeg. Well, a business like that in today's day and age is worth six times sales, eight times sales, easy.

cash flow and gross margins and yada yada. So it was too bad that I couldn't. Couldn't help him more at that time, wasn't skilled enough. How did he pivot? What happened next?
Oh, he started trying to sell Canadian water.
Which he learned very quickly that...
Consumer businesses, retail in particular for consumer businesses, are... incredibly challenging. You have to buy shelf space. You know, if someone from Safeway says, well, if you give me $250,000 under the table, I'll give you four facings. So it's...
Back to the mom hiding the money because that was going nowhere, and he was probably a little younger than I was at the time, but just, you know, couldn't give it up. But I learned a lot about retail from my grandfather. We would go, he'd go on the truck with me and he'd say, OK.
We wanna go Thursday to this store. I said, why? He says, well, the Coke guy comes Wednesday. So then what we do is, after the Coke guy comes, we take his six facings and we make them three, and then we hide the rest of the bottles behind the cereal. And then you put yours out there. I said, my family sounds like crooks. Sorry, but, so I'm always very wary when people, you know, in high tech say, Oh, I'll tell you about retail. I'm like, yeah, I had like three years of it, and it's a brutal dog-eat-dog environment.
Done. Academically, what were your interests in high school? What did you like to study?
Oh, I was a math and science geek.
You know, I, I was...
I think top three in math in the province a couple of times, until my senior year where I thought, okay, I got a chance to win, they opened it up.
to...
a whole bunch of the Chinese kids that had come in, and they had all been held back because their English was bad, but they'd all finished four years of math in university in China. So I didn't do that, and they changed the whole...
The whole testing environment. But yeah, and I got invited, I got recruited for God's sake, to math.
At the University of Saskatchewan. So I went for a weekend to math camp, if you will, and it was kind of fun. It was interesting things. But I know I didn't want to be a doctor, and I didn't want to be a lawyer. I mean, all the professions that you would do. And so engineering was...
Default, but a good default, like something I enjoyed. So there was an assumption or an expectation that you wouldn't continue sort of a working class entrepreneurial life like your dad, that you'd go on to college?
Yeah, there was my, I think I was the first family member that went to college.
Wow. My sister went and wanted to go to nursing school and for every bit of Math and DNA that I had, I took it from her, I'm sure, because she just really couldn't.
Just couldn't handle all the different math and science that a nursing degree. So she she stepped down and she got her nursing.
Diploma, I think it's called, but I was the first one that actually graduated, and now my daughter is the first one, I think, will get her PhD. Cool.
Dan, what was available to you? How widely could you apply?
yeah, like did you know you wanted to stay home, or did you think about elsewhere in Canada, even the United States? It wasn't even, it wasn't even that thought process back then. You were going down the street, and you know, and you stayed at home until you got a girlfriend, and then you got checked out to the apartment because they didn't want her around all the time.
So there was no, you know, there's no idea. I mean, you know, my daughter now, or this fall coming up, we're going to go tour schools, and she wants to go to NYU, and I was like, well, okay, but maybe we should have some backup schools, you know? And she's a Canadian, so we're also looking at UBC and McGill and some other good schools in Canada. But no, it was, it was, you know, right down the middle, you were going to the University of Saskatchewan. That first year, the men's had never had a volleyball team. They had just got funding to do one, so I was the only high school grad that made the team. There were a lot of older dudes that, you know, were seniors in college that had joined the team. It was, yeah, i

t was a great four years. What were some of the strong programs in university? Well...
Ag is probably the stronger, I mean, it's a huge agricultural province, right? W heat is the big, big, I mean, some, there was a slogan someone came up with, it was just terrible when they were trying to advertise the country, the province. It's called the POW province, potash, oil, and wheat. So those are the three thi ngs, the three natural resources that the organization has. So ag was strong, en gineering was very strong, and then the rest of the school, when it's built in a province like that, is built to graduate the whole host of people you need to r un a province. So there's a dental school, and there's a medical school. Is the medical school fantastic? No, but will it produce doctors? Yes, right? There's a legal environment. So it was pretty broad-based.
I have
for years tried to argue that you need to try to become known globally.

for something there. They built maybe a decade ago a world-class cyclotron, and that helped differentiate them, but it's almost impossible to recruit somebody a s a professor to that place in this day and age because it's
It's cold ten months out of the year.
lovely place, lovely people, with super low cost of living, but...
You know, it's really cold, and it's really slick in terms of its...
rankings in terms of a lot of the schools. So you lived home all four years?
No, then the girlfriend came and then the dad said, hey, here's the apartment. G et out of here.
So he would come every Friday morning.
He come with groceries?
Every Friday morning at 6 a.m., I always remember, he'd ring the doorbell in the apartment, and I'd just stagger out and he'd go, okay, here's four bags of groc eries and 12 beer. And he'd put it inside the door and then he'd go to work. So, but we, we played, I mean, volleyball, I'd say my sporting career has been...
You know, the volleyball team practiced 4 to 9 every day, and that was tough on studying engineering. And then when you...
We were a poor school, relatively speaking, so when you went to travel...
To play other Calgary, Edmonton, Winnipeg, you're on the bus for 10 hours. So yo u'd leave Thursday morning on the bus and you'd get home Monday night, so you we nt to school Tuesday and Wednesday.
And just we're begging people for notes and stuff. So it was, again, it was a wo nderful experience, and we ultimately, in my...
Junior year one, but it was tough on the grades. Don, why electrical engineering ? Why did you choose that for your major?
Yeah, yeah, good question. I don't, I think it was, I think it was a sexy one ba ck then, you know, I mean, civil engineers, you build a bridge and I think it wa s just that, but...
If you're looking for a whole bunch of deep, deep thought, Dave, you're looking you're looking in the wrong tree. It was fun, though, you know, do you know of t he iron ring ceremony? Oh, sure, sure. Yeah. Well, it was just, it was bizarre b ecause I wasn't, but like half the guys were high in this thing, and it's a clos ed ceremony. Like only if you're, if you have a relative who's an engineer, they can come in and they, and then you hold this chain and you chant and it's, it's pretty interesting, but Um...
But again, I wouldn't trade those four years. I graduated fine, and I ended up m eeting...
One of the founders of the first company I worked with.
who ultimately got me my first job in engineering at his networking company. Ah, interesting. So in college, did you take any business classes, econ? Was that a ttractive to you at all?
No, no, no. We, computer science was just starting. I actually hand-programmed a PDP-8 with toggle switches, which is pretty cool.
We ended up in your earlier years, they called it, you know...
Engineering English
You had to go to these classes and the professors were mad because they knew you

didn't want to be there. So they would put a whole bunch of questions.
saying in this book, who is the maid? Fill in the blank.
So reading the Cliff Notes did not help you do that, right? So everyone squeaked through all the rest of those classes, but by the time you were in...
We used to call third and fourth year, you know, everything was just all engineering and thermodynamics and whatever it might have been. So.
Did you work during the summers? Did you stay on campus to do research?
Oh gosh, no, no, I worked, man. I lifted soft drink bottles 12 hours a day.
Yeah, no, I would go with my dad. I, um...
I always, I didn't like getting up early, so I ended up, and he'd come in and wake me up, and I'd go, get out of here! So I built this, this thing, which is pretty ridiculous. I took my record player,
And I should Daisyed an electromagnet and some tacks that I put on my door. So all he had to do is open the door a half an inch, and the tacks would make the electromagnet go on, and I had another coupling to 110 volts, and it would turn on my stereo, and it plays Stairway to Heaven. So it started slowly. That's how I woke up in the morning. But no, no, it was pretty, pretty down the middle, you know, get a job, and then we played, we played volleyball like all the time, right? If you could, if you could get a crew together, you would do it. And the nice thing was, you know, there was a girls team, so you weren't, you know, when we were, when you're not training, you're playing, this is now I'm talking, you know, high school and university, you know, you would, you'd be playing volleyball. Now the college girlfriend, would that become the wife?
Ne.
Now, did not turn out, a lovely lady named Dorothy.
She was...
among the best if not the best player in the country.
And we ended up meeting at a tournament, and one thing led to another. She ended up coming to Saskatoon, and in 1979, both the men's and women's team won the national championships, which is, I think, a one and only ever done.
But no, that ran its course, and then in 1980...
I moved back to, I moved back, I moved to Vancouver, and I had been given a job by this founder, George.
In engineering, and, you know, I had an engineering job and we were doing, I mean, you can't believe how you used to do circuit boards. You used to do green and blue.
plate green and red tape for lithography, and then you'd take photos of it, and then you'd etch circuit boards this way. So you'd be drafting basically to build a circuit board. And I thought, yeah, I don't know if I wanna be doing this very long. And they had a sales opening in Vancouver for Western Canada, and they said, would you like that? And, you know, it was technical sales, and I said, great.
And so I moved to Vancouver in 1980. Is that the year you graduated?
Yeah, well, you graduate in the fall, so I went to work for a little, maybe six months in town. Okay.
And in the spring, was off to Vancouver. And who was that original connection? Who did you know?
In Vancouver? Yeah, well, to get you the job in Vancouver. Oh, so...
The two founders of the company, one named George, was a professor of engineering at the U of S. That's how I met him. And he said...
You're a real ball of fire. Why don't you come work for us?
So he got me a job, $1,500 a month, stayed with a buddy. We bought six albums every Saturday morning, came and listened to the music, and...
And then finally said, you know...
We have this sales job, and I mean, the territory was British Columbia, Alberta, Saskatchewan, and Manitoba. It's a big chunk of country.
And so Monday morning you'd get up, you'd get on the plane, you'd fly all the way east to Winnipeg, you'd do sales calls, you'd come all the way back.
So let's do Regina, Edmonton, Calgary, you come home, and on Friday you try to do some sales calls in Vancouver, and on Saturday you do your paperwork.
But, um...
It was fun. I ended up moving, when I moved to Vancouver, I moved in with my sis

ter's best friend on the couch.
And I kept looking for apartments in the newspaper and she finally said, Don, if they're in the paper, they're shit.
You got to get in your car and drive around. I was old because there, you know, so I drove around and I found this place, one bedroom above a shoe store and a restaurant. French restaurant was fantastic, chocolate mousse, and ended up meeting a really good guy named David who owned the shoe store. And so I would go down Saturday morning and do shoe sales for him. And we'd have a friendly bet over a beer on who would sell more shoes in an hour.
So then, so that was, that was the whole Vancouver bit, but I knew a lot of people in Vancouver because University of British Columbia had a team in the league we played in. So many of those, both men and women, I knew, and they played volleyball Saturday morning. So I got invited and it was a very easy integration into a community. Did Vancouver feel like an exciting, cosmopolitan kind of place compared to where you were from? Oh, no doubt, no doubt. But, you know, Vancouver is mini San Francisco. Like it's, it's a huge Chinese Canadian community, you know, huge Chinatown. The biggest, um, gay community in Canada is there. So very much a San Francisco vibe. I think it's the prettiest big city in the world when it's sunny, which is not very often. Yeah. Because when I moved there, I counted. There were 52 days in a row with no sun. Didn't rain every day, but it was overcast. And you come from Saskatchewan that has 300 days of sunshine a year.
So I do suffer from SAD, sun affective disorder. I have to turn it off for Zoom, but I have this giant white light on the side here for the winter time here.
Did the technical aspects of your education, was that useful? Did you draw on that for sales?
Oh yeah, absolutely. We sold...
We originally sold one thing, which was basically we know today as
Modems, right? So we invented the precursor of the basic modem technology that comes to your house now. And so I basically had to go to the telephone companies because that's who bought them, and were trying to get, and it was like 56,000 bits per second was the fast ones, you know? So yes, having an engineering background really mattered. And because all the buying people were super technical, and I wasn't super technical. I had to get up to speed fast on that stuff. And then the second product line was a switch. And back in the day, if you had three different computers doing three different things, one doing finance, one doing HR, one doing admin, you had three screens on your desk because they didn't talk to each other. So we made a box that went in the middle where you could only have one screen on your desk. And that became a very successful product line in the company, ultimately went public on the strength of that growth. Who were the clients? Who were you selling to?
In the modem world, it was mostly telephone companies, but in the switch world, we were big news. We were the leader in enterprise switching, so GE Aerospace was a big customer. NASA, Kennedy Space Center was a big customer, and ultimately, we sold the NASA, our next generation. I was the program manager, and so I worked at Kennedy Space Center for two or three years. I commuted.
Saskatoon, Minneapolis, Minneapolis, or no, Saskatoon, Winnipeg, Winnipeg, Minneapolis, Minneapolis, Orlando, rent the Hertz car and drive an hour on the B-line. It was a good thing I was 25. Then we had a three-bedroom apartment in Cocoa Beach.
And so I had other guys that worked on the team, and I would be two weeks on, and the other guy, a buddy named Andy, was two weeks off. But we were...
We were there during the Challenger explosion. Who were the competitors for your business? Who were you competing against? You know, it was another Canadian company called Gandalf, as like Gandalf the Great.
And they just hadn't figured out how to use microprocessors.
In their switching fabric before, we figured it out first, our head guy Brian.
So we really, the company was really, really taking off. But then...
Well, two things happened. One, that's when dad got colon cancer, about 1984.
And I said, I said to my management, I said, hey, look,
I gotta move home and take care of my family, so, you know, if you can find me a different job, because I can't do this sales job, great, and if not, I'll figure something out. So they said, no, no, no, and they put me in...

product management, which, you know, the four P's, product, pricing, promotion, positioning, and I learned that, and that has actually been the backbone of my career since then. Helped figure out where that new product lived, which worked very well for a long time. Uh, we didn't execute very well on engineering on it. And then Ethernet came and became the big disruption, which we did not embrace properly. And I ultimately left the company and went to another small company. called SBE, Sideband Engineering. It was actually a shell of the CB radio company, but they built datacom stuff.
And that was the one, I don't know if we briefly talked about where we'd start drinking wine at 4 o'clock and...
I didn't, I didn't like it very much.
Don, in all your adventures as a traveling salesman, did it come naturally to you? Were you a good salesperson, or did you really have to work on that aspect of your personality? Well, I think I was pretty good at it. I mean, I have...
You know, this is a goofy thing to say, but my wife had me read once and said, hey, here's the news. You've been alive 60 times, and this is the first time you've been a guy.
I said, oh. So she, and then she said, so do you have good instincts? And I say, I have fantastic instincts. If I don't listen to them, I...

What am I talking about? So, no, I think I have good instincts and...
And a pretty good, I've learned how to be a pretty good active listener, so it...
You know, it wasn't the ice cubes to Eskimo kind of sales guy, but you build some trust and you know your stuff and you listen to what they want.
Don, what sticks out in your memory when you got news of your dad's diagnosis? Expletive deleted.
um
Yeah, I had just started getting into a more serious relationship in Vancouver, and so, you know, I was thinking, what am I gonna do here? But I just told her, I said, look, I gotta...
I gotta go?
And then I went, I recall going and talking to his doctor about it. It was his general practitioner, it was not a cancer doc.
But he's like, you know...
He's not gonna live. And I was like, okay, dude, I got a perfect score in statistics in my senior year. Let's lay out the graph. Let me see where this thing has opportunity. And...
So he got lucky. They managed to...
resect the colon, take out most of the cancer.
He had a bag for a long time, but then they actually reattached that. So he survived for a good 20 years post that cancer.
And...
Where mom was not, as we had talked about earlier, mom was not so lucky. She got 20 months.
Do you think that your response to the doctor's fatalism about your dad, do you think that planted a seed in you that there's got to be a better way here?
Well, I, you know, I don't wanna get a front of my skis, but what was clear to me was...
That there was an opportunity to succeed and that the doctor hadn't given the family any hope. And I thought that was a travesty. So I came home to Mom and said, hey...
There's a chance here, and, you know, we just gotta...
Block and tackle and keep working through this, because it was chemo and, you know, I had surgery and then chemo and radiation, and it was pretty brutal attack on his body. I don't know if it planted a seed or not. Certainly, the wide range, my Uncle George I talked about, my dad's older brother, ended up getting prostate cancer.
And he didn't want to treat it, and then he finally did, and he died on the operating table.
And so he's a guy that shouldn't have, you know, that prostate question that I s

aid we work on as a prostate team, should you or should you not? Had I known wha
t I know now, I would say, George, you know.
Live with it for two more years and die with it in two years instead of going to
 the OR and dying next Wednesday, which is what he did.
So you going home wasn't just moral support, you were with your dad, driving him
, taking care of him.
Oh, yeah, yeah, of course. Yeah.
Everyone, everyone was, yeah. Yep. And, you know, it's, it's, nothing's more tha
n three miles away in Saskatoon. You get anywhere. It's not like you're going to
 UCSF or something. But you had the bandwidth, you could keep up with the work.
That was okay.
Oh yeah, yeah, yeah. No, having bandwidth has never been an issue. Don, tell me
about the four P's. Let's go through them one by one.
Oh, okay. Well, just, you know, you start with what's your product.
What's the positioning?
What's the pricing and what's the promotion? So when you start teaching young pr
oduct managers, you talk to them about that. And, you know, on positioning, you
know, a good buddy of mine who is a marketing guy, Procter & Gamble star, he sai
d, look, you either describe it or you position your product, right? So it's Joe
's low-cost cars. Oh, okay, they're low cost, right? So there's just some basics
 of doing that. It's, you want to occupy a piece of someone's mind. You know, in
 today's day and age, I could never be a head of marketing. The promotion techni
ques and technologies and online stuff that goes on, I would have to relearn a w
hole portfolio of that. But that, you know, that's always the basics. And you wa
nt to be, if you can, you want to be a worldwide leader in some category for som
ething. You know, I want to be the worldwide leader in routing for the internet.
 Oh, okay, I'm Cisco. So too many people try to build the number four product. A
nd, you know, I think.
60% of
Profits go to the number one market share product, and twenty percent go to the
number two, and everyone else gets what's left. So if you can't build a great pr
oduct, you're just pissing in the wind.
So this was, you know, the company saw potential in you. This was not necessaril
y an opportunity that you would have gotten had your father not gotten sick. You
 might have been on a different trajectory. Absolutely. Very true.
And I did well there. I got that new product off and going, won that contract at
 NASA. But as Ethernet evolved...
They said, you know, we got to get down to this place called Silicon Valley beca
use we don't know what the heck is going on. And so they brought the company off
ered.
Four or five, I don't recall, of us who did not have children, some were married
, some weren't.
to move down to this area.
And we all moved down the
They hired a new president, a wonderful man, Peter Krieg, Kriget.
And he looked at our finances, and so we had a small office in Dublin, Californi
a, and I bought a home in San Ramon.
The first home I bought in Saskatoon was $102,000 Canadian. I paid outright for
it, so it was $70,000, and that was my down payment for my house in San Ramon. W
elcome to California. Barely make ends meet and had dirt in the yard for at leas
t a year, but it got us going. What year would this have been? When did you make
 the big move?
A
84 or 85. Okay, and your dad is stable at this point? You felt okay leaving?
Yeah, yeah, I mean, once he got his innards reconnected and, you know, things we
re going okay, I moved down and...
am
and then, and then...
And then that company went into a big proxy fight.
The CEO lost, and a new CEO came in, and he fired everybody except for me and th
e CFO.
And I thought, oh, merciful God, fire me too. And...

And we had won this weird deal in Vancouver, which was not representative. The p
roduct could do it, but it was the wrong fit. And he thought, oh, this is it. An
d I said, no, it's not.
And it was my first
Like I was super naive. I sort of like, well, I'm gonna leave. And he said, OK,
well, I'm gonna give you six months' severance. I was like, oh.
Because I just thought I was sleeping and, you know, clearing out my locker and
um...
So that that was fine. And then I went and joined this other networking company,
 which was an OEM, just a technology provider. And actually, Cisco was one of th
e customers. And as we talked about earlier, that was, I lived in San Ramon, tha
t was a commute to Concord, which wasn't terrible.
I left that whole scenario to go to Cisco.
Which, of course, turned out fabulously for my life, but it was, man, gosh almig
hty, there was no 2:37. That was an hour and 45 commute because Cisco was in in
originally in East Palo Alto and in Mountain View.
Dan, I have to ask, this being a long time ago, did it feel at all like the Sili
con Valley that we know today? Was it a buzz with technology and development and
 investing, or was it sleepier than that?
I'm not sure I would have had the full optics on it, David, but it was certainly
 more exciting than Saskatoon, right? I mean, it was. And, you know, and network
ing is the thing, like at that time.
3Com
Judy Astran, a well-known tech person there. 3Com was up and coming, Synoptics.
So there was more, you know, interest around the networking, which was...
All enterprise-based networking, which was sort of the precursor to the internet
. It was not internet yet. You built private networks. But, you know, that was w
here the older company, DevelopCon, had a great opportunity. We had all the piec
es to make campus area.
Technology that Synaptics ultimately made and became a multi-billion dollar mark
et cap company and...
The CEO said, no, we're going a different direction, and that's when I said, wel
l, geez, we had everything we needed, and he made the wrong choice. So I underst
and correctly, Synoptics was a contractor to Cisco? No, Synoptics was a, in that
 era,
The first wiring closet company. So you put your switching box in a wiring close
t and over twisted pair, you would, over twisted pair that ran Ethernet, you cou
ld then connect your PC to the systems. We had all of the pieces. Remember those
 modems we talked about? Well, that's that same technology. We had all that. The
 switching technology for Kennedy Space Center, we had that. We had 3270 IBM tec
hnology that nobody had. We had X25 switch. We had all the pieces and it was jus
t sitting there and super disappointing because it would have...
Would have worked really well, and we'd had a customer base that had our older t
echnology that I think we could have upgraded, but did not happen. You mentioned
 the four Ps were so formative. Already at this stage in your career, were you d
rawing on that to sort of propel your career?
Yeah, I mean, I came up with a map which, you know, said, here's local area netw
ork, here's campus area network, here's wide area network, here's the size of th
em. So it was a 3x3 grid, and I said, we own the middle piece.
That's the one we should own. Let's not...
Around, and the boss said, no, we're gonna do the wire area piece. And I said...
The big structure of what we transfer is 25% efficient. It's terrible. It's 75%
inefficient. That's the last thing you want to do over super expensive light ove
rnight. Nobody cares if you're doing it on fiber on Kennedy Space Center. So...
Yeah, that...
And that did help because then I joined Cisco as a first product manager, and as
 we talked about earlier, you know, ended up...
I'm doing cleanup on aisle 4 on all the software that people wrote overnight, tr
ied to tell people what it was, hey, try to figure out what the hell it was, and
 then clean up. So I would do this thing called, one of the old sales leaders of
 mine taught me, make the appointment at 5:13, so I would do beer, I'd go buy be
er at 5:13.

And invite the engineering guys, so they would tell me what they wrote in code t
hat week.
That was in East Palo Alto, when East Palo Alto was the murder capital of the Un
ited States. Wow. And I'd go across the street to the little store and get the b
eer, and the people are going, dude, what are you doing? I said, they seem reall
y nice. But we had...
We're preparing for Interop, the trade show, and one of my guys comes in and say
s, there is some shots in the parking lot. I said, well, get in here. FBI raids.
 I mean, it's nowhere like that now. East Palo Alto, love you.
I go to the golf store all the time, but it was super dangerous back in the day,
 right at the Dunbarton Bridge there.
Was Stanford in those early days, was it sort of interconnected with Silicon Val
ley? Were you seeing Stanford graduates do startups, or this is all earlier than
 that?
You know, I think that it's earlier, where they did startups, was Sun Computer.
So it was in the compute space that was the hot space then. I mean, during the C
isco's tenure,
Both Jim Gibbons and John Hennessy, both of whom were dean of engineering at Sta
nford, were on the board.
So, you know, they did try to create linkage. Mr. Valentine, we talked about my
father-in-law.
he created a lot of scholarship opportunities in Stanford. So I think it got tig
hter, but in those days, networking wasn't quite the thing. It became it quickly
, but let's call the 80s was compute and the 90s was networking. Sure, sure.
So at this stage in your career at Synoptics, were you already sort of C-suite o
r one step below that? Oh, I never went to Synoptics. What I said, and I said po
orly, at the Velcon company, we had all the fixings to become a Synoptics. I see
, I see. We didn't, I said, forget about it and left to this other company. When
 I joined Cisco, that was the 50% pay cut to an individual contributor.
And so, no. And that's when Sandy and Len, the founders of Cisco, were there. Th
ey, that was the story where Sandy told, there were no brochures.
And Sandy told everyone, if the customers weren't smart enough to figure it out,
 we didn't want them for customers.
Which didn't go with the classic marketing strategy. And there was a, when I was
 just joining, there was a revolt.
And all of the VPs came into the CEO's office and said, it's us or her.
So that that was what I, like the first week I'm there, I'm like, what the hell
is going on?
But I worked with this lovely guy, Doug Hsu, and he was just starting to build o
ut the product management team.
And, you know, help me get centered.

there and...
And I went up the ranks. Well, Don, I think maybe that's a perfect narrative bre
ak given how important this pivot is in your career when you started Cisco Syste
ms. Why don't we pick up there for next time?
That sounds awesome, Dave.

Episode 3 - April 7, 2025
Source file: 250407_1190 David Zierler.transcript.txt

Okay, this is David Zeiler, director of the Caltech Heritage Project. It is Mond
ay, April 7th, 2025. It is wonderful to be back once again with Don Leshin. Don,
 great to see you again. Thanks again for joining. Thank you, David. All right,
we're going to pick up our conversation, the beginning of your career at Cisco.
So let's just do some Cisco History 101. Tell me what you know about the foundin
g of the company and its sort of origin mission.
Yeah, it was a married couple, Len and Sandy, at Stanford.

And involved, I don't know in what capacity in the IT organization, but...
The proliferation of devices after Ethernet and local area networks hit created real problems, predominantly on academic campuses to start, because there was no technology involved to try to isolate traffic. So everything was what's called, you know, a land bridge, and they were, everything was connected to everything. And at some point, that runs out of steam in terms of the technology.
So we came up with this idea of the internet router, and instead of in layer 2 of the tech stack, which is the MAC level switching, they said, why don't we do it at an IP level or at the protocol level? Because back in that day, there were upwards of 20 different protocols vying to become the protocol, which, as you know, TCP IP ultimately was the winner.
And they had started building some of those technologies.
And I believe they were building them out of the company's technology, if you recall, we talked about SBE, who built, back in the day, there were two standard bus systems, VME and multi-bus, that you could buy standard off the shelf. And VME was a Motorola product, and you could buy processor cards and program it and do...
other things, the other little company I worked for, everyone built processor cards and memory cards, they built network interface cards, Ethernet, token ring, those types of things. So I think they hacked together the very first router, and it sort of worked. And, you know, the in the living room conversation, you know, built it in the living room.
And then ultimately spun out the company.
to grow it. I know that Sequoia Capital, as we talked about my father-in-law's company in the beginning, did put an initial $2.5 million into a Series A, and I believe to this day that that was the only money that ever went in the company from any external source. Wow. I'm not even sure they needed it outside of...
having working capital to kind of move forward with things. So they...
They left Stanford and they started building these products.
And this is in the
You know, I don't know well enough it was not involved, but the late-ish 1980s.
And because by the time I joined, which was the sort of mid-1990s, the company had already gone public.
which was, I think, March of 1990, so I missed that opportunity, but...
I didn't know what the heck an option was anyway, so I just wanted to get out of Dodge, you know, where I was. I was not having any fun.
and went and interviewed, so we had talked about my colleague Andy Lockhart.
Called up John Mortgage and said, hey, you know, I went to Stanford and I know networking, and Mortgage took the lunch and Andy got a job in...
corporate development, business development. Ultimately, he, as you recall, he was the guy that worked with me at Kennedy Space Center. He ultimately got the first job, which was to fly to Tokyo and make Cisco Japan.
From, you know, a piece of paper. So that was an exciting time for him, and he ended up, you know, having to build the entities and find a small office. And his ultimate job was to hire a leader, and he hired a guy named Tak Matsumoto, who beforehand had built Sun Japan to a very formidable company. So he was a well-known commodity, very well connected. And that turned out well. So Andy got me an interview in product management, and with what ended up being my boss, Doug Hsu. And we talked, and we got along, and he offered me that product management job to do product management for software. And as we talked about earlier, I got the 50% pay cut. Benefits were the same, and then there were these cool things called options, which I don't know what they were worth, but, you know, you could figure it out mathematically, but who knows.
And I started as the Cisco software product manager. John, if we could just go back, it's such an important point. In the living room, what exactly did they innovate that set them apart from the competition?
Well, they invented routing versus switching at a, you know, a very simple level that, you know, you can...
As the box is...
Looking at all the packets coming through, switches just forward everything. Routers go, oh, should I forward this or not? Is it somewhere else? So the router has a map, if you will, and knows where other things are. So hence came a thing c

alled the routing protocols, which we use for all sorts of things, right? We use them for sending money. We use them for routing airplanes and the like. So they invented that.
Routing protocol, it was called IGRP.
But they really were the first, in my mind, people who came up with this idea commercially.
Now, were you integrated before this with Stanford research at all, or was this sort of your entree to campus and research culture and things like that? Me personally? Yeah. Yeah, no, not at all, not at all. I was plugging away at my little company in Concord and was looking for exit stage left. And so I...
Outside of, I think, Stanford being an anchor customer in the prototype area, they had both left Stanford to my knowledge, but, you know, I'd fact-check some of those things because I, you know, this is all third party for me. And they were there when I was interviewing, but it had already got acrimonious there when we had talked about the other vice presidents really upset with, in particular, Sandy, the woman in the relationship. And so things were, things were pretty hectic when I was moving in. Now, from the outside looking in at the interview stage, were you aware of Cisco's innovations? Were you aware already of its reputation?
No, well, I mean, Andy did a good job of helping me understand what it was, and having been in the enterprise campus-based networking world for a long time, and really having hoped to build something even a little bit better than what they built. Remember, we talked about the, a.k.a., the Synaptive smart wiring closet thing. I was well aware of the opportunity, and I had even tried to start when I was at SBE, an FDDI, which was a fiber-based backbone, company with an innovation to double the speed.
And that just never got, it was with myself and the CFO at the time there, and it just never got off the ground. I clearly would have needed a mentor to help me get going, but no, no real interaction with Stanford in that regard. Now, beyond you, as you said, wanting to get out of Dodge, the willingness to take such a big pay cut, was part of that because you were really excited about where Cisco might be headed, that you saw an upward trajectory here?
Well, yeah, two things. One, one was I knew the markets. I knew the technologies. I knew the customers. So, you know, the water was warm. I wasn't like I'm dropping into a, you know,
a drug development company or, you know, something like that.
And they were growing quite dramatically at the time. So, you know, I think the first year that I joined, they more than doubled in size. So there was a lot of excitement in the company, and of course, there was a lot more excitement because 90% of them had their options gone public. So now everyone had their option spreadsheet. You know, every day you looked at, okay, oh, this piece of paper could be worth...
$140,000 or, you know, whatever it was. But then, you know, the people were great. It was very intense.
Very smart people, but, you know, there was a no-suffer-fools culture in there. You know, sort of eat or be eaten. You needed to know your stuff and do it right. Tell me about your initial work. What were your responsibilities?
Well, I alluded to earlier in our conversation, David, that, you know, it was the, there was no product management. So for people who are reading or listening, product management is the job of trying to help define and shape.
how your product exists in the marketplace, both the product characteristics, how you try to compete against other people pricing and so forth. So the essence of Cisco's strength for many years...
was their software. We had a competitor that ultimately emerged from the East Coast in Boston called Wellfleet, and everyone used to say about three years after, I said, I wish we could have the Cisco software and the Wellfleet hardware. Because our hardware was still some of the older clunky stuff. But the guys would write software, you know, adding a security filter for a particular protocol that someone never knew we needed. And they would do that and they would FTP where they would file transfer it to the customer.
And my job was to run around figuring out what the hell just happened, accumulate the 37 things the engineers did last week, and on the weekend, I'd write a rel

ease note to sales.
and going, hey, here's a new software release, and I would go to engineering management and say, can you guys like bundle these up so I can call it something? It's like 10.2 or whatever. And it's, okay, okay, we'll call it 10.2. And then I'd say, okay, here's feature number one, and here's, you know, the benefit, and does the competition have it, yes or no. So the first part of my career there was running around engineering and trying to figure out what the hell they were doing, trying to write it down for the sales force, because it was all competitive advantage and helped them understand what it was. But, you know, the two giant dominant forces in the company early on were engineering and followed strongly became sales. Marketing and product management was a core real afterthought until finally John Chambers came and said, you know, we need somebody trying to arbitrate because now engineering is fighting with sales and sales is fighting with engineering.
In product management, do you interface at all with advertisers, advertising, getting the word out there through media? Yes, I mean, remember the four Ps we talked about. Promotion is one of those things, but there was a marketing communication. So the VP of marketing at that time, Kate Muthur, she had MarCom, marketing communications as one group. She had product management, which Doug worked for her, and then she had documentation and training. So those were her three groups. And so she was responsible for
The group that did outbound marketing. Now, we were supposed to be the content providers to that. A lot of companies put a group in between, they call it product marketing, in between product management and marketing communications. And as far as I'm concerned, it's a total waste of an organization. It's like, you know, if you guys can't talk to each other, well, the next thing you can do is, let's put a fourth organization in place because you don't, you know, like, learn the language. And so the product people were very strong, not as good in the marketing communications, but our company was a service agency. And they'd say, look, here's what we think PR should say. Here's...
You know, here's the journals we're going to try to get in, and then we would, you know, I probably built a million PowerPoints in my life, and you'd build the PowerPoint deck for the sales force, because we had a great advantage of, to this day Cisco does, a very talented direct sales force, so the interface with the customers was one-on-one.
Can you explain, Don, the give and take between how Cisco is driving technological development and how it's responding to technological development more generally, and how you deal with that from a product development perspective?
Well, there were largely anchor customers that...
dragged you by your hair, right? So Motorola was one, Boeing was another, and Fidelity in the financial services area. And so...
They had, you know, Boeing in general had made a big commitment to get rid of drafts.
tables, you know, for building planes, and to go totally online to CAD, computer-aided design. So, you know, there was a hundred things they needed done, probably a thousand things they needed done. And, you know, they ran out of address space. As you know, every end device has its own unique address. Well, it's one thing when you think there's going to be a million of them on the planet. There's probably a million of them in my house right now. So, you know, so you have to innovate on how to do all of those things. So, I would say our biggest real
Go after the market innovation is when I switched jobs. So I did the software first, and then I'm gonna tell this great story. And then I was asked to do network management.
And I went, okay, this is another software platform. And so I was just confused. I'd go to people, no one would want to talk to me, and it's like, well, we need to at least fix the infrastructure on the router. So it was very early on, and John Mortgage had not met me.

He met me and shaking the hand of the photocopier, but he asked me out for lunch. And I said to him, I said, you know, John, after the niceties, I said, John, w

e don't have a network management strategy, and I've got to get my lunch. So Joh
n always wears little glasses like this.
And he took them off and he looked at me and he said, Son...
As CEO, I always have a strategy.
You may not understand it, you may not agree with it, but I have a strategy, I s
aid. I'll stand corrected, sir. What is your strategy? And he said, to do as abs
olute little as possible without the customers getting pissed off. And I thought
, oh, I wish someone had told me before I took this job. This is a job to just g
et yelled at constantly.
So I went, okay, I get it now. And so, you know, all we did was put in the basic
 hooks, APIs, things that someone else could build that software for, and Hewlet
t-Packard tried, and DEC tried, and a variety of people tried, and they all put
tens and tens of millions of dollars into doing, trying to do heterogeneous netw
ork management of multiple entities, and it was all a terrible failure.
So...
As we began to penetrate more into enterprise, big business, as opposed to just
academia and government like NASA or wherever else, IBM, of course, was the big
dog. And, you know, the question was...
Could you add value by integrating some of the IBM stuff?
And of course, IBM's view from many years ago was, well, you know, anything that
 comes along, we'll just integrate into IBM SNA architecture, which is their arc
hitecture to move stuff around.
And, uh...
And we didn't think that was the right thing. And it turned out to be a very goo
d time to try to add.
Another protocol and another set of technologies. And so notably, it was token r
ing as opposed to Ethernet, a different physical interface that they were trying
 to move forward. Far more better technology, but probably three to four times m
ore cost per endpoint. And, you know, some people said, well, we don't want you
to integrate our big mainframe. We want you to just, we're now building little t
oken ring networks in departments. Can you help us move that data around without
 having to put it through the mothership, right? And we said, yeah, we can figur
e out how to do token ring bridging and routing. And so, you know, we started do
ing that.
And Doug said, well, there's maybe more to this than that. Now, I had had some I
BM experience with my last company, the Canadian company, where we did emulators
 and we made a old DEC or a new DEC VT100 terminal look like an old IBM machine.
 So I knew a 3278 from a 3745 from a whatever, like, I still remember them.
Solexicet.
There's probably more we can do here. And during that time in the 90s, we ended
up entering into a recession, not unlike this week.
And so recessions are good selling opportunities. I mean, you get to sell someth
ing.
for only two reasons. You either solve a problem or save some money, or both. An
d so, you know, now you've got the internet, the CFO goes, well, what the hell i
s this internet wide area backbone? And what the hell is this IBM wide area back
bone? Why can't you have like one of these? So that was the simple economic idea
. Can we merge them together? And of course, IBM wanted us to merge to them, and
 we wanted them to merge to us.
Early on as we got going, and Doug and I started talking about, well, what's the
 journey for this?
He came up with the idea of a multi-phase plan, and so that was his way of sayin
g, here, you know, let's coax the market, tell them that it's not a giant flash
cut.
Of course, the IBM guys were the big dogs in the organization, so you don't want
 to get on their bad side.
So I came up with a five-phase plan that had three stakeholder communities. The
people, the stakeholder one was the people who ran the local area networks. Stak
eholder two were the people who owned the wide area networks. And stakeholder th
ree were the people who did the network management and tried to keep the thing.
And so I said, here's a 3x5, and here's what I'm going to do. Stage one, I've al
ready, so I already, you know, I had stage one done. I released it. I released t

he five-phase plan via marketing. Stage two then was the next step of this, SDLC tunneling, not important. You could plug in terminals and things. And we laid that out.
Um...
And at that time, it was me and Joel Vine. There were two of us doing this entire global strategy. Joel was one of the early, early engineers, totally brilliant. You know, he'd write code and post it the same night like everyone else. And so that's when we started getting attention.
Now, I do remember a story where John Morgan and I, once we were starting to get traction with IBM and we'd done the five-phase plan, and the beauty of a five-phase plan is you can always change phase four and no one even remembers what it was, as long as it looks the same, right? So we were like, yeah, we're just kidding about that. We're going to do this instead of that, but it looked the same and it felt the same.
And we went to this smaller financial services company in New York and the guy's there, he's...
30 age or something. He says, I want IBM reliability, and I want IBM network management, and I want IBM this. And John Morgan, he took off his glasses again, he said, well, you don't want us. You want IBM. Straight shooter. And it was a straight shooter, and the call ended, and the sales guy was mortified, and he got the purchase order an hour later for our stuff.
So, so the IBM stuff really started, that was what in enterprise really started to differentiate us, whereas Wealthy and others never had had that. And so I went out and hired a head of engineering, in concert with engineering because I didn't run it, a head of engineering, a guy named Cliff Meltzer, and then a guy from Nick called Nick Francis. But the rule of fund that I was taught by senior leaders is you can't take people who've been in those organizations for more than 10 years because they're broken and they're bureaucratic. So those were both nine-year guys, I think. They came in and became real anchors. So Nick worked for me, ultimately ended up working for me as we fast-forward.
And I'd say the one, you know, last interesting thing is that...
The nirvana was, could you channel attach to an IBM mainframe? So the mainframe has its own, what's called bus and tag architecture, and then it had a front-end processor. And we could attach to the front-end processor, but everybody could, but it was slower and it was really a big IBM router, and we didn't need routing because we were routing, and I think it was Cliff, I'm not sure, who talked about the IBM Fellow program. And IBM Fellows back in that day had about a $25 million budget, and they were there to do things that others weren't doing it, you know. I'm gonna make the next photocopier. Okay, well, no, we're not doing that.
And we got and met with him, a guy named Bill Bosley, and Bill said, yeah, well, we should build a channel attached router. And I said, well, we'll build it. And he said, well, I'll tell you how to do it.
And it went, Ellen Hancock was the head of networking at that time, in the running for the next CEO job, and she went to the board to stop it.
And the board said, Ellen, we've had fellow programs for a hundred years, and this is why we have them.
And she got told, no.
And so we ended up doing that, and I remember to this day, we ended up...
renting an IBM mainframe for our booth and Interop, and man, was there a buzz. And we had a channel attach router moving stuff, you know, from Newfoundland, I'm making stuff up, to the show floor in Vegas. And so that really, that was probably my big career breakthrough early on, and was a very important differentiator versus anybody else in the market. Now orient me in the chronology, this transition where things really start to pick up, your career is going well. What years are we talking about now?
Well, so I joined August of 1990. I'd say the, I'm guessing now, David, but I'd say the IBM stuff kind of went through '93, '94.
Ennenn
And then Doug was leaving. They didn't think Doug was right for the next level of growth. I thought he was fantastic, but, and they did a hire and they hired a guy, which we'll just say was not my favorite hire. And there were two people, there was this guy and Jayshree Ullal, who is now the CEO of

Oh gosh, giant switching company.
making billions of dollars.
He'll come to me.
um
Докладывай.
I'm drawing a line here.
God, talk about a brain fart.
Arista
So Wist is probably only one of the few companies.
in the history who have really challenged Cisco in some of their core markets. N
ow, this is much later, this is 2000 plus. But Chuck was the guy's name, came in
, and he and I didn't get along. I felt he was very, very astute politically. Le
t me just leave it at that.
And...
And he had hired...
a number of then product managers, right? So there was a guy, Brent, for the har
dware, for the routers itself, and there was a woman Heidi for network managemen
t, and...
And our team was maybe five across with Chuck.
But I didn't get what I needed. I'll just, you know, leave it at that. Ultimatel
y...
He ended up leaving the company, and it was essentially a competition between me
 and Brent, I think, to get the job, and I ended up getting the job as Director
of Product Management.
And that was, you know, mid-90s, and so...
I was...
Okay, you know, I'd get in work at 5 a.m. and I'd leave at 8 p.m., and it was a
real, real hell because I lived in San Ramon and the office was in Mountain View
, and 237 hadn't made the right-hand corner there yet. So, but, you know, it was
 early days and you worked really hard, and...
And then Ed Kozel, who is the head of CorpDev at the time, he said, you know, yo
u're gonna fail. And I went, I'm killing myself. And he says, you don't have eno
ugh people. And...
And, you know, you're trying to keep up with an engineering group that's doublin
g every year, so.
I went to my boss, who at the time, John Chambers had come in, and then John end
ed up getting international sales and marketing. He did not get domestic sales.
And that's because one of our guys, Terry Yeager, who'd been there forever, said
, well, I'm not working for John.
Ultimately, he did, and John was, as we know historically, was being groomed to
become...
this, you know, the CEO of the company.
啊,所以
I'm sorry, David, I lost my train right there. No, it's okay. The stark binary,
being told you're going to fail, the distinction between success and failure, I
mean, does that, is that really about job security or about how well you're doin
g? How do you measure these things?
Well, look, I see now, I'm hoping to join a board right now of a company that's
100 million a year. And as far as that I'm concerned, all the managers are good
at 100 million a year, except if you wanna go to 250 a year. So you need manager
s who know how to get there from here. And my team was fine, but it wasn't good
enough for where we were going. So I asked John for more headcount.
And that's when we brought in a guy named Kevin Kennedy, who was at Bell Labs, a
nd he was running Bell Labs' router program, and Ed knew him. And then we brough
t in this Nick Francis that I talked about, and we brought in, I brought in like
 four, I doubled the size of my team.
And that saved my job because...
I was a good leader, I still am, I think.
And I just needed some more horses.
Eheadigad.
And you had to get super technical people or engineering.
Wouldn't listen to you. Like, Kevin had a PhD from MIT and...

Like you needed to be able to go toe-to-toe with the engineers or they'll just d
ismiss you and walk out of the room, right?
And a big part of product management's job is, we did...
Hundreds of customer presentations a year. And John built a culture at Cisco whe
re...
I built the first executive briefing center there, and...
You got measured, so every Monday morning in executive staff.
One of the charts would go up was, okay, Don did 15 EBCs last week and his score
 was 4.9 out of 5.
Hey, Kevin, you only did 12 and your score was 4-8, and here's the area they don
't like.
So a big part of that product management was having to be very technical. Like,
we weren't doing PR, right? And. You mean technical just in terms of internal co
mmunications? No, I mean in being able to talk to engineering customers and bein
g able to talk to the engineers writing the code. Yeah. Or doing whatever. You h
ad to be able to argue with them, well, this is the way I wanna do this filter t
hing. And a good one, like Larry Lang, would say, well, that, that'll work, exce
pt for you if you did the filter two-stage like this, you'd get a far better out
come. And that's what we ended up building. And those people were powerhouses in
 terms of, you know, there was the salesperson, and then there were systems engi
neers that were in the field.
And they were very good at what they did, but...

They knew how to implement what we built, right? They weren't doing the next lev
el of things, and that's what the product managers were doing. And during the hi
story, of course, history, Cisco is well known for its acquisition work, but...
You know, during that, as that acquisition strategy would start in the future, a
s Ed would start driving that, as a business unit, you could do a little acquisi
tion. As a line of business, you could do a bigger one, which might be a busines
s unit. And then Ed would go, we're totally missing fiber optics, and I'm going
to go and buy a corporate...
bunk and put it in place there. We had not started that yet.
The first time we did an acquisition was myself and Mr. Chambers, and we bought
a little company called Crescendo, which was Mario Matsuza and Jay Sri and Prem
and Luca. And over time, they got called the Italian mafia plus one Indian woman
. And they built, and they were building really good switching products.
And they were building them for smaller businesses. So we had two problems. We d
idn't know how to build switches because you still needed some, and we had no id
ea how to go to small, medium business from a distribution perspective. But that
 one, John and I were in the room.
And Mario's got a number in his head that he wants.
And John doesn't wanna give that number. And I come up with this, what I thought
 was pretty smart at the time. It's standard fare now, but no one knew, like thi
s is 1995. I said, John.
Stock is forty-six bucks a share.
Offering two million shares.
Ninety-two million, because they think his number was a hundred.
and show them the graph and the chart for the last six months and go, this is go
ing to be worth more. Now back in the day, there was a tax treatment called pool
ing of interest, where if you put two entities together and you just said the ot
her entity is now part of the big entity, there was no tax implications. So that
...
Two million shares, however it got distributed among that people's company, they
 didn't have to declare any tax, and it just rolled over into Cisco stock, and t
hat made all of those people very, very wealthy over time. And they were, you kn
ow, they were anchors. They built the next level of switching called Catalyst sw
itches in the company, which was a huge, huge success in the enterprise after so
me fits and starts.
Don, to clarify, when you're talking, engaging with engineers at a client, a cus
tomer on a technical level, are you taking their input back to Cisco and changin
g your software, your hardware, your development? Yeah, you change your roadmap,

you know. Motorola says, well, you do these four filters, and you didn't know about these number five and number six for IBM stuff. I need this. I need you to be able to filter so someone can't send something to this printer. Oh, so, you know, you'd go back. Now, you know, as things got more hectic, now the list's a hundred deep.
Now this is where in your negotiation with sales, because now they're coming in and the aggressive sales guy is pitching feature number 19 that he wants for his deal, and we're only going to release the next 10 next week. So, you know, you're in this...
in this battle royale with trying to get engineering to do as much as they can with quality, trying to satisfy sales, and try to keep anchor customers happy. Now on a personal level, I want to pick up the thread, you know, the dramatic decision, you're taking a 50% pay cut. This is a risk. When does this change for you financially personally? When do you really start to personally reap some of the value, the monetary rewards from all of these developments?
I don't explicitly know, David, but I'm sure I was caught up by the time I became a director. Yeah. Right? You know, the product manager was 75 grand and a half. I think when I got network management, I got like a little bump. We'd get annual bumps. But, you know, more importantly is, you know, we kept getting more options as we went. But the big step was that director. And then the real breakthrough was, you know, when Kate, the VP of marketing, decided to leave and I earned that opportunity. And I remember John Morgan bringing me into his office. And I'd been in a sales meeting and he scolded me for something I did. And he said, you know, this isn't some piss-ant little opportunity, Don.
This company is going to be important. It's already special, but it's going to be important. So...
You know, get your big boy pants on and get to work. And is that the point, so I'm trying to just establish the chronology, when do you enter sort of...
big benefactor territory, when you can think about, even before we get to Canary and, you know, all of that, when do you sort of enter the next stage where you can think about giving yourself on a significant level?
Oh, I see. Well, let's call it 97, 98. I mean, the early stock I've got, I mean, the stock is company probably did six stock splits. And so my first big...
Giving was, I gave $2.5 million to my university, and I can look up the date, but I'm thinking it was for an engineering chair.
Specifically for...

Communication, better communications for students, because at the U of S when I went to engineering school, the guy would pick up a chalk, piece of chalk, stare at the chalkboard, talk to the chalkboard for 45 minutes, right? And you go, well, why didn't you just like put that down and I could have paid to photocopy it, right? So I ended up giving a chair for innovative teaching, which ultimately was very useful in the early years, and then it became known as internet education itself. Somebody else did all of that, and of course, the whole market has changed, but that was my first big...
And look, anytime, no matter how much money you have, the first million dollar gift.
You know, you've been taught, at least people my age, since you grew up, that a million dollars was real money. Sure, sure. And, you know, when you're giving it away for the first time, you're looking at yourself in your mirror and going, are you sure you really wanna do this? But it was good. It turned out...
To be a good thing, I know they've, they've taken that 2.5, I got my report last year, it's worth $6. So I think it helped fund that. I don't know that that chair, I told the new dean, I said, look, I don't think that chair is a proper thing after 20 years. You should take the thing and chat with me and figure out where you wanna point it. Doug, let's overlay, you know, going from the early 90s to the late 90s and all of the developments at Cisco for you personally. Where does that fit within the broader narrative of what we now call the dot-com boom, you know, more and more people coming online personally at home, all of these companies sort of now have a dot-com aspect to their business. What's the impact of that for Cisco? Alternatively, how is Cisco influencing those developments?
Well, look, I mean, one of the biggest breakthroughs, I think, in terms of...

Using the tech globally was the mouse, right? I mean, you know, if you've got to clickety-clack, enter, blah, blah, blah, as soon as this thing, my mouse started using the computer when the mouse was available, right? Color screen and the mouse. So that's mid-90s. And all of a sudden, the human interface is useful. Then, you know, Netscape and the rest of these guys start...
With the browser now making it easy to get to information, and there was back then there was a Silicon Graphics CEO.
Who was promoting his things as internet servers around the world. We just, I think, candidly, just tried to keep up. Now, during that phase, there were the protocol battles. There were the, you know, DEC had DECnet and IBM had SNA and Novell had their thing and Banyan had their thing. And I remember early on in my, in the 1992, with a consultant and I, we wrote 16 protocol briefs trying to explain to people, you know, why they were all different. And
Um, you know, and ultimately, ultimately, actually, thanks to DARPA, I digress, but we have TCP IP because there was a big battle between TCP. Ultimately, all the little protocols disappeared, and it was TCP IP. But there was a battle in terms of what the telco companies and people, big military wanted, and there was something called ATM switching. And they said, well, ATM switching is deterministic, and we know when the packet's going to get there, and IP is not. And so DARPA said, yeah, interesting, but...
Let's do a bake-off.
And so they did a bake-off. They gave $60 million to two entities, and TCPIP ultimately won, and that's why we have what we do. And of course, it's ridiculous now. We're streaming 16K movies and saying TCPIP wouldn't work. You know, they said you can't make a phone call with it. So, you know, that had progressed. And then Cisco had been helping the military build MILNET.
And finally Milnet.
peeled off to be their own network.
And that's when Al Gore showed up.
And everyone makes fun of Mr. Gore, but I'm gonna help correct the record because I was involved on the periphery with MILNET. And what he said is not, you know, maybe overstated I invented the internet. He invented .com.
He said to everybody, we should have commercial entities use this, and academia said they're gonna flood it and kill it. And he said, no, we're gonna charge them.
And we're gonna charge them for access lines, and that will fund the backbone, and we have the internet as it is in some regards today because of him.
And so that's when businesses started, you know, getting involved. And probably the big push that we went to extend the internet was not just from Enterprise, but the next step that Kevin Kennedy built was called access routers. So for someone's regional office. So how do you make that go? So that was a big push, turned into a...
$5 billion product line, Mr. Mortgage, he said, look, this is always a risk for a company, a second product line.
A different price point, different distribution, we got to get this right.
And so Kevin and I built this Kevin Success, he built like 16 different platforms.
A huge success. And then the next, you know, the next thing is, okay, how do you get to the consumer? And that's when all of this ADSL and VDSL and cable, so we built the first cable internet router. And then there was, so there was a whole business unit for consumer access. So in that regard, we innovated along that stack, going from enterprise down to small, medium business, then to consumer. And then ultimately for me,
We got schooled where the service providers, the AT&Ts, the Verizons, the Deutsche Telekom said, what the hell are you doing trying to sell us enterprise crap into service providers? We don't buy your stuff. We buy stuff made for us, like Bell Labs made and, you know, Nortel Labs and those types of things. So, you know, the market exploded itself with the dot-com stuff started, was really probably, you know, Yahoo, and I mean, here's me telling one I missed pretty badly, went for lunch with Mike Moritz from...
some square, and he says, I got this...
Yeah, I think I'll be Yahoo. And I said, oh, interesting. And he said, you know,

we're looking for some corporate development money. And I said, OK, well, you know, tell me about it. And he says, well, it does what Yahoo does. And I said, well, how do you make money? And he said,
we don't know.
But we'll try to figure it out. And I said, Mike, you might be able to go back to your office and say that because you're a venture capitalist. I sure the hell can't go back to my office and say, we'll just figure it out. So we didn't do the investment, and of course, in hindsight, it was stupid. But, you know, if you think about it, that was the next most important thing, which is...
which is, can you find something? And then Google came along.
And fun story there. So Google comes along. I'm in, in the office. Now this is post-2000 though, so, but I gotta tell while I've got it. And I'm in the Sequoia office trying to get, purchase a little company that they have. And Mr. Valentine's there. And I know him not as my father-in-law for, it wouldn't for another 15 years, but he was chairman of the board. So I knew him through that. I, I was VP, had been VP of marketing. And he's, and if he suit, I said, how's everything going?
And he said, the air is rare from the smell of Google. And no one's done anything for two weeks waiting for this IPO to go out. And of course, everyone in that shop made.
In aggregate billions on that thing. So that, you know, that was the thing.
I think it was, well, I still have the little cubit. March 27th.
2000, Cisco hit the highest market cap. We passed GE and Microsoft for, I don't know, like 24 hours. I think it was $527 billion, which sounds pretty funny when you're starting to talk $2 and $3 trillion these days on these mega cap companies. But that was sort of...
The beginning of the bubble, the stock.
in 2000 had hit into the eighties.
The company had locked out everyone from, I don't know if everyone, but any vice president from trading, which Mr. Morgan always pointed out is we probably made you guys millions over the last five years by not letting you sell. And that's for me when the OpenWave opportunity emerged, and it was very clear Mr. Chambers was going to stay in his CEO chair for 10 plus years, and I was anxious to move on. So that's when I...

I moved on.
Sold all my stock in the fall of 2000, so that's why I joke I was there the right 10 years, 1990 to 2000, and then went to OpenWave, and then the markets, the bubble, the internet bubble cratered in, I think it was March of 2001. And you left Cisco as number two.
I did. And what was the title?
Executive Vice President of a bunch of stuff. And it was on the basis that just because of the dynamics of the company, you would never be co-CEO. That wasn't in the cards. Well, uh...
Yeah, I mean, John retired, I think, 15 years later.
He did, John, John,
related very heavily to his role as CEO.
What were you most proud of in your tenure at Cisco?
Just being part of the journey with everybody. You know, I was the growth guy. You know, I got the IBM thing right. That's probably the...
The biggest catalyst to become...
the number one dog, and then...
I, in a sort of the...
Late 1997 or so, it became clear that we were not organized right, to me, that we were functionally organized, engineering, sales, marketing, whatever it was.
And I pushed John and the board, I said, look, I think we need to go to a line of business.
And we had an offsite with the exec team, and I said, okay, here's the thing. So I brought in a Sony Walkman, I brought in a boombox, I brought in a three-piece stack home stereo.
Right? And then I had a picture of Michael Jackson's...

stage. And I said, consumer, small, medium business, enterprise, service provide
r. You can't sell that shit to them, and you can't sell those three things to th
e small, medium business, because he wants to put the CD in and hit play and hav
e a volume button.
And that was a good...
a metaphor for people, and people got it. And I said, John, look, we've got to g
et consumer, I don't know that we can ever play there, but these three we can.
And I said, look, just reorganize. And I said, I don't care. Just give me one, r
ight? Because the enterprise was the big dog and the service provider was broken
. And he said, well, you can have the service provider. And I said, fine.
And we took a service provider.
Went to the August sales meeting.
August, September sales meeting, because our fiscal year was August, and...
we went and the service provider sales team had missed their number, and it was
the first time a sales team in history across the board since the company was st
arted missed a quota.
Kevin Dinuzio, who had just been hired from Bell Atlantic,
Join the team to run that sales group, and we were at some little hotel in Silic
on Valley, and he had the world's worst champagne for a toast. We're up on the p
odium, we're about to toast, and I...
I drink it, and it comes out my nose. It's so bad. Like, sorry, sorry, sorry, I
dab, dab, dab. I said, OK, look.
We're gonna get you products.
We've got our service provider ready, and we're gonna get them for you this year
. And we're gonna double our sales. You're only gonna make a lot of money.
And when that happens, I'm gonna buy you a Dom Perignon next year.
And all that happened. I got a very big Dom Perignon built.
And I did that.
I think three more years, one billion, two billion, four billion.
8 billion, and then...
The year I left...
It was just around the sales meeting time, and I wanted to go and get them all c
hampagne and say goodbye, but John...
John thought, okay, no, we don't need...
Don't need you in the building, Don. You've left the building. So, but John was
kind enough where he picked up the...
$250,000 champagne bill. You get it for the team, and I moved on to OpenWave.
Don, one thing we haven't talked about in all of this is the regulatory environm
ent, the FCC, the FTC, any other three-letter government agencies. Are you invol
ved in that world or are these early days? Is it still kind of the Wild West?
No, it's still very early. People just don't understand. I mean, you know, to th
is day, I can't explain to you taxation by state on the internet, right? I don't
 know what's going on. I mean, the, you know, the only thing...
As I said, I was involved in with Milnet, so one more fun story and then I'll mo
ve on back to you. We ended up...
This is late, this has got to be 1999, so I'm very senior, probably 15,000 of th
e...
30,000 engineers work in and around, like, we had a business unit structure. The
y were around 200 to 250 people, and their job was to be number one or number tw
o in a unit. And that was, and if you couldn't get to one or two, you better go
buy something, or we better, or just shut it down and go, we can't compete becau
se there's no profit to be had.
And I can't remember the two-star general's name that came.
with his entourage to ask us about...
doing some feature development for their software for MILNET.
And his attache was this captain, this woman, and we all sit down and I got like
 10 guys and he's got 10 people and...
He turns to the captain, he says,
Everyone's American, right? And she looks at him like, oh.
And I said, Yeah, General, I'm sorry to say I hadn't naturalized yet. I said, I'
m Canadian.
And he said, oh, and he looks at her, and for all I know, she was a corporal at

the end of the meeting, but if you'll excuse me, and I said, yeah, and I got up and I left the room and he came back in.
And he said,
am
Well, we're going to have to ask you to leave the meeting. And I said, I totally understand and respect that.
But I said, you understand that it's my budget and I'm the decision maker, and...
It's just sort of like, I'm paraphrasing, he's sort of like, yes.
So you know they're going to come out of the room later and tell me what you wanted and see if I want to do it. He said yes. He said, look, as long as an American asks you, it'll be okay. I was like, okay. And it was like, it was nothing. It was like, I don't know, three guys for, I mean, you know, but three guys for two weeks. It's like, absolutely, we'll do this for the military community. But that was, that was, you know, sort of the only regulatory environment we got stuck in.
You know, I did sell the internet backbone to China.
And they did ask us to put in
Sniffing technology to find people's conversations, and we refused to do it. You know, I'm pretty sure, given how good they are at that kind of stuff, they figured it out themselves, but I said no, but it...
Yeah, it was a five-year sales cycle too. And I was with the deputy minister singing karaoke, which is my absolute least thing. I hope the champagne was better, at least for that. Well, the problem is the damn guy didn't drink on top of it. Like, there's a long story, David. I just about killed myself. But so after, you know, he's getting to know me because the whole thing is if I have a problem, I got to call you. Yeah. You know, the deputy ministers are the guys who do stuff and the ministers, the political arm. And I said, well, Mr. Minister, how long is this going to take to install? And it was the Chinese national backbone. We're selling them like 1,200 of the biggest things we had. He said, maybe, maybe 18 to 20 months.
and my jaw dropped to the floor.
He said, Misterliston.
We have the Red Army. That's all he said. There's no such thing as right of way. If there's a farm there, move your farm left because the fiber optic cable is going right through your living room.
Wow.
Don, when you make the dramatic decision to move on from Cisco...
Obviously, you're a known entity in the industry at this point. Are you getting headhunted? Are you putting out feelers? What's the point of connection for Open Wave?
No, you know, I was, Ed Gozelligan had started saying, hey, we've got to start getting into software businesses, or at least...
software businesses that are network adjacent, for example, a call center, very networking-oriented, and we can't just be hardware, you know, all the time.
And so we started investing in companies, for example, Tipco was one that has been around forever. Another one was called Software.com in Santa Barbara, and I actually sat, so Ed and I sat on boards, as did other people, because I'm sure Ed did.
a half dozen or more of these investments. Software.com was a large-scale mass email.
And so AT&T was their first customer because email was brand new and how does it work and so on and so forth. So I had joined the board there.
And during that conversation, every board meeting, it became increasingly loud about the mobile internet. And the number one thing people want on the mobile internet is not browsing, but they wanna be able to do their email. And so the two companies, one was called software.com, the other was called phone.com.
Neither of them were the traditional dot-coms. They actually had revenue and software stacks. And those two companies decided to merge, and that became the CEO opportunity. And having known Software.com guys for a long time, and they were the bigger of the two, I said, you know, mobile internet? This is awesome. And so that's, I left and did that. What was the learning curve for you, and what coul

d you bring with you directly from Cisco in terms of your experience or perspect ive?
Well, I knew the customers, like the mobile internet was being sold to the servi ce provider customers, so I knew, you know, I knew most all the customers around the world. The technology was...
another technology stack. It wasn't all that unique. You had to learn about the mobile phone experience. I mean, very early on, I don't, you know, if you ever h ad a data mobile phone in 2001, like it was, they were terrible. The experience was terrible. It just wasn't ready in any way. I brought a lot of acquisition ex perience. I brought experience and being able to manage. It was 3,000 people whe n we merged together. I brought public company experience, financial experience, but we got hammered.
by the meltdown in the market.
And so that was a terrible start. And then I laid off 1,500 out of 3,000 people, which was just...
Gut-wrenching.
And then 9-11 hit.
And we had over 200 people stranded globally because they were all out young eng ineers with, you know, a $200 credit limit on their credit cards installing stuf f in Belgium or whatever. And so we got very lucky. We had that whole plane that was coming from Boston that I think ended up going in the Pentagon. We had had people on that plane going to LA.
for a trade show, and they were showing up day of instead of day before, which w as policy to help the marketing people set up. And I screamed at them and I said , You bastards, get off that plane on whatever day that was and go the earlier d ay. Oh my goodness. That saved like seven employees' lives just serendipitously.
And then, and then, you know, it turns out that these kids, their community is w ork.
It's not church, it's not the neighborhood, right? They're all living in apartme nts or whatever. And so I really, I walked in and everyone's looking at me like, what should we do?
40 years old going, I don't know what I should do.
They said, here's what we're gonna do. We have 212 people stranded. That's the o nly mission for this company.
We're going to get two hundred and twelve people home.
And then we'll go from there.
I think I quoted some Nietzsche as well, I thought. He grounded about dark holes or something, but I'll find it later. Don, as CEO, what did you learn about you rself, or what did you have to tap into in a way you never did before leading Op enWave, being number one?
I didn't realize...
That their whole community was work, and that, you know, I was the pastor. I mea n, I didn't...
So that was more an aha.
And, of course, once you get the aha and you understand what problem you're tryi ng to solve, then you can say, okay...
What they need is a job, a mission, right? And so that's kind of how it went. Bu t it was an enormously difficult time. The wheels fell off. My mom at that time, we talked to kind of close the loop there. She had been fighting the ovarian ca ncer, and I was then up.
post that apocalypse of the stock market crash.
and
And she ended up dying in front of me, and the CFO called literally three minute s later and said, We missed the quarter, and I said, I'm sorry, Ellen, but the n urse is asking me if they can have my mother's eyes, so I'm gonna deal with that first, and then I'll call you back. And
And I came back home and I was in a staff meeting with everybody and...
And I melted down. I just complete...
I mean, it should be under Wikipedia and Meltdown, it should be a video of me ju st losing my shit. And Kevin Kennedy had joined me, and he saved, I walked out, and he became, not immediately, but he took over the reins till I could...
could find myself, which took many weeks. Well, Don, in our next conversation, o

f course, we're going to, because of how formative it is for everything that cam e after, we'll trace the entire odyssey of your mom's illness and the...

the impact on you and the inspiration that it created in you going forward. Just to close the loop for today, at OpenWave...
How did you get the company back on track? What was the sort of upward trajector y after the recession?
Well, one big thing is we had a pretty good messaging business that, you know, t he internet, the mobile internet was the shiny thing that we had ignored. Hired a really great young guy, Richard Wong, came in to revitalize that. We had custo mers and product and not much competition. That, that was the one thing.
And then we just got, I mean, as you know, technology moves and moves and moves, that the handsets finally became getting better. They were usable. But, you kno w, maybe to end this segment, the stock at one point during a board meeting was trading at 43 cents a share when we had $5 a share of cash in the bank. Whoa.
Now that's what Stockholders call a vote of non-confidence. I would say. And unf ortunately, I was going through my divorce, or I would have bought the whole kit and caboodle. Yeah.
But...
It wasn't, you know, I'm, my strength is a momentum player, and without Kevin th ere, we never would have done it. He just helped us grind it out, you know. He, I finished with a joke, I'm going a little backwards, but when we were, he and I started the service provider business, I was the outside guy, he was the inside guy. And he built this 20-point plan to beat Lucent, who was our primary compet itor, right, of AT&T Bell's labs. And...
And the good news out of it, we joked, was Lucid did 18 out of 20 of them themse lves, to themselves, so we only had to do two. So Kevin's the ultimate grinder, and he is the person that I give all the kudos for grinding us out of that hole we were in.
Vau.
Well, Don, last question for today, because I also wanna set the stage for your perspective on philanthropy and being in a position to give. After donating to y our alma mater, did you sort of expand your purview? Were you giving more to edu cation? Were you interested in healthcare philanthropy before you started thinki ng about your mom and cancer?
I'll say it's a good segue. It's kind of where I got reintroduced to my now wife . I was divorced. There was an event.
For a company, an organization called Room to Read.
And it was a fundraiser and it was in one of the country clubs nearby, and I got invited by somebody, one of the staff members, to come. I didn't realize Mr. Va lentine ended up being there, and his daughter, Hillary, was one of the very ear ly board members. And so they were doing this thing where they give...
They build libraries in schools internationally. Their first one was in Nepal, a nd
I went and I thought, well, this was interesting, and, you know, I'd had some mo ney. And so I donated a school. Now it turns out a third of the guys in the audi ence worked for me or used to work for me. So I would just like go around and sa y, hey, David, do you want to do a school or a library? And he'd go, yeah, sure, fine. Finally, the very last guy, his name is Bill. And I go, Bill. And he goes , count me in, Don. And that was the first time Room to Read had raised $100,000 at an event. And John Wood, who's the founder of that organization, wrote a boo k about it. So chapter 19 is called Count Me In, Don. So I started there. And ye s, it's been, we give to many more things, but 80% of my giving has been to canc er. Okay, very good. All right, well, Don, wonderful, as always. Next time, we'l l pick up. I want to trace your mom's healthcare journey and all that comes afte r. So we'll go from there. Yeah, remember, thank you. Recording stopped.

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Okay, this is David Zeiler, Director of the Caltech Heritage Project. It's Monda y, April 28th, 2025. Wonderful to be back with Don Listwin. Don, great to see yo u. Great to be with you again. Thank you so much. Thanks, David. All right, toda y we're going to pick up. It's obviously a difficult story, a poignant story, bu t of course it's one that is central to your life and your career. I want to tra ce the narrative of your mother's illness and, of course, the impact and inspira tion this had on you going forward in your life. So let's just start right at th e beginning. Where were you and what was the news when you first got word that y our mom was sick?
Well, I was living, you know, where I am now, here in California, Los Altos, and ...
Actually, it would say, come to think of it. And my mom had been sick for some t ime. I have an older sister, Louise, who's a RN, registered nurse, and she had b een worried that, you know, mom just wasn't feeling well.
And, you know, when mom died, I just looked it up. She was like 62, 63.
And so, you know, women go through menopause, and it turns out part of the big p roblem of ovarian cancer is symptoms mimic what women experience during menopaus e.
And of course, culturally, they're just told to shut up and deal with it. And so that's what mom was doing. And she continued to not feel well. And, you know, I 'd go up in Vancouver. They lived in the Vancouver area.
And that's about a two-hour flight from here, and I had my own wings, so it is p retty easy to go up, even for a Saturday, Sunday, and you know, go visit the fam ily and come on back down. And increasingly, she just wasn't well. I mean, it's almost like this ear thing. I've had this ear clog for five weeks now. I'm going to the audiologist tomorrow. And at some point, you're kind of like, okay, this isn't normal.
So my sister managed to drag her into a clinic.
Because her doctor had given her antibiotics.
And, um... Thinking it was a UTI? Yeah, like...
You know, hey, you know the drill. 30 years ago, it's like, hey, let's give you antibiotics and see what's going on.
And Louise persevered, God bless her, and she got mom to go to a different docto r who was a little bit more blank sheet of paper.
And, you know, did some tests and they said, well, this isn't right.
And my memory is pretty fragmented on this, I must say to you, David, but that u ltimately the tests came back that she had ovarian cancer.
And a pretty late stage. I mean, it was, it was, yeah, it was late stage. It was stage four ovarian cancer, which...
Now that I know as much as I do about it, it's not a death sentence, but the odd s aren't with you.
So that's, you know, sort of that was the, oh shit, and at that point...
We ended up getting her into Vancouver General Hospital, which is in downtown Va ncouver. They lived in a suburb called Langley.
and
And there was a doctor there, Dr. Diane Miller, who began to take care of her. A nd, of course, the first thing they do, in this particular case, not that it's a ll that important, but the way the cancer was located in the abdomen disqualifie d radiation as a treatment.
And chemotherapy was the key thing.
So, you know, she started on chemo and...
I mean, gosh, 30, you know, chemo is still devastatingly hard, but 30 years ago it was even worse.
nauseous, wouldn't eat, you know, I tried to get her to smoke a pot, but some po t, I couldn't get her to do that.
And, you know, she went through the chemo.
through the whole course, and then, you know, went back to VGH with Dr. Miller, and they opened her up, and she said, you know, when she came out, she said, I w as very excited at the beginning. I had suction. I was suctioning out all this c ancer, and then there was a veneer left that was not surgically...

I couldn't surgically deal with, and...
and soldered back up, and basically said, well...
I think that's all we could do.
So
You know, continued to travel up, I think, almost every weekend. I was working at the time, we talked earlier, at OpenWave, and the mobile internet company, and we were in a hell of a tough month. I mean, for God's sake, it was September 2001. So 9/11 had just happened, and we talked earlier that, you know, we had over 200 employees stranded globally. So trying to figure that out.
And so, you know, the end is coming, and so I fly up.
I have a one-on-one with my mom, and she's just most worried about my dad because she's taken care of him all his life. Like, she was the brains of the family, he was the brawn. And I said, don't worry, I'll take care of Dad, and I won't, I'll make sure he doesn't have to go into a home or anything. We have all sorts of resources, don't worry about that.
And she was in hospice at the time, so I expect that that was sort of the...
trigger she was looking for.
Nick went back to their house, stayed that morning early. I don't recall when. I got a call from the hospital saying, you know, it's...
It's ending, her life is ending, and so I hopped in the car and drove, because she was actually in hospice at a place called White Rock in British Columbia on the coast.
And I missed her passing by, I don't know, five, seven minutes or whatever. So you're sort of in the room and it's kind of shocking, you know, and it's your mom, and as we've talked about, she was, we were very close.
And as I'm doing that, one nurse comes in and starts asking me if they can have her eyeballs.
And some of the phone rings, and it's my CFO, Alan Black, and he goes, you know, I got bad news. We missed the quarter.
So it was September 29th, it was, that was a Saturday.
And that was when most of these...
Internet markets had started collapsing, and in particular, the mobile internet still wasn't...
a steady, viable kind of growth business. So I said, well, Alan, I've got bigger issues to work with right here today. I'll, you know, I'll call you back in a couple of hours.
Um
And we donated her eyes and anything else they would take, although after all that chemo, I don't know what they take. And...
That was it.
Don, did you, I know that the memory must be a blur, it all sort of gels together, but do you recall at any point from initially receiving news of your mom's diagnosis?
Right to her last moments...
Is there an ignition, is there a spark for you in that timeframe where you say, I'm gonna do something about this, or does that really come after? It comes after, David. It comes after. You know, it...
The engineer in me kicked in and started doing more and more research on...
Okay, ovarian cancer, and what became very clear is when found early, it's...
Curable is a big word, but little c curable, you know, 80 plus percent of the time you can...
You could cure these women by cutting out the stuff they don't need anymore in their 50s or 60s or whatever else it is. And that, and that after the fact, that's really when I started going...
Um...
You know, what can I do about this? And then during that whole period as well, I ended up going through my divorce. And so it was a rocky time. Now, the good news is I lost 26 pounds. So...
But, you know, a lot going on, young son going back and forth, and so on, but I had thoughts.
I had a very good team at OpenWave, a number of very senior Cisco people who came to work with me. And so I recall I was in a conference room, and I was going,

you know, talking to the team after we missed the quarter, and I was like, hey, it's gonna be okay, we're gonna come back, and I burst into tears bawling, and...

I'll get there. My buddy Kevin Kennedy, who is a...
Brilliant friend and a genius. He walked me out. He was the number two guy, and he basically kept the wheels on the bus for me for months.
It's not longer.
But I kind of had to work through, there was, you know, global unrest. There was my personal unrest with the divorce, then the family. So it was a really long, tough time, several months till I kind of got my shit back together. I can't tell you really when I started.
You know, thinking about...
Like, OpenWave had got to a point where, for those of us who are gonna see this or listen to it, there was a board meeting that I was in.
where the stock hit forty-three cents a share when we had five dollars a share of cash in the bank.
Now, if there's a vote of no confidence in the CEO, that's freaking it. Yeah, yeah. And...
And so that was part of it where I went, and, you know, my board is, you know, I'm getting death threats. I mean, really, you know, we had higher security and not from inside the company, but outside people wanted to put my whole, you know, my whole life savings in your company, mobile internet. And it's like, well, you shouldn't have done that.
um
And, you know, that company ultimately, thanks to Kevin, got stabilized. We actually got reengaged in a second product line in the messaging area that...
We had abandoned it, it was too silly. It came back very strong. And that company got to a point where, you know, stock went back up to $25 a share, which was probably the right level. And I just said to the board, hey, you know,
I think
This is the time. I think Kevin's brilliant and should do it if he wants. Turns out he was on the board of JDS Uniface, which was the big fiber optic supplier back then, high-flying Canadian company.
And they had just let go of their CEO and they tagged him, so he had two jobs.
JDSU was 10 times the size of the company, so he decided to do that. And the board ended up doing a search process and brought in an individual to uh to take over.
How ultimately did the ship get righted at open wave, or did it not?
Well, it did well, Kevin and I were still there.
er
It was two things. It was, we were both the mobile internet tech that made the browser work on a phone, which that was hard years ago because the phones were so small. But it was this, if you recall from the earlier conversations, this large-scale email and, you know, internet service providers, unless they were the biggest of the big, top five, Google, whoever it was, they couldn't build this stuff. And we had, we had ignored it, abandoned is the wrong word, but we'd ignored it and hired a really
Brilliant young guy named Richard Wong, MIT engineering grad, and came in and he turned that business around. So that gave us some cash flow.
And then during the selling process, before me, before I came in, there were just so many promises made to service providers. And I say service providers, I mean, you know, telcos who think, oh, I've got to get in this business. And we just had salespeople who used...
The suburb scale tactics in the short term, saying, well, your competitor just bought $3 million worth of stuff.
And if you don't buy some software to make this go, you're gonna look stupid in the market.
Well, so...
It's like called stuffing the channel, if you recall that term.
where then they paid for it, but they didn't use it because it didn't work. Not that our software didn't work, but the end-to-end.

system, I mean, you're on a bloody Motorola flip phone trying to, you know, do s
omething outside of text messaging, and...
So I think time helped because the handsets got better and better. But I had to
go, I mean, my saving grace is I ran the telco business at Cisco as my last big
gig with Kevin. It's about a $12 billion business a year. And I knew many of the
 people that the company had sold to before I came in. And so, you know, like Te
lmex in Mexico City, and I go in and go, Carlos, look, I'm really sorry. I didn'
t do this. Let me fix it. That took probably two years to dig out of that invent
ory pile. And then Richard came along and really started kicking it on the other
 side. And it got stabilized.
But unfortunately, you know, when Kevin and I were both leaving, we said, look..
.
We're at a crossroads here. We either have to become one of three things. We eit
her have to become a hardware gateway provider like a Cisco and sell ourselves t
o a Cisco or a Juniper. We either have to become a client-server company and be
pure software. But there's three options that at least the two of us thought.
And they went out and hired a CEO.
um
which I think is important for me to be very...
to me on this, but...
My deal was to stay till the end of the calendar year, so I think that was on th
e order of a hundred.
Days, I moved out of the CEO's office, gave the new guy the seat.

This is calendar year 2002.
Correct. That's right.
And
Well, I'll go back, David. 02 or 03, 02 probably, 03 maybe. I'm not sure.
Because it was September of 2001, so it could have been 2003. And...
And the only thing that struck me is...
The guy never came and asked me any questions.
Like, if you think I'm a complete moron, then really you should ask me a few que
stions and do the opposite. Like, there's an algorithm in there that can work. A
nd he never did, and...
And the place never became what it could have.
And I'll leave it on that note.
Done all of the dislocations after September 2001 in the business world, in your
 career, do you think, I mean, not to put you on the psychologist's couch, but d
o you think that all of that tumult got you thinking about...
Not a pivot because it's not your specialty, but at least a new focus for your e
nergies. Is there a, is there an origin story of Canary that only exists because
 of all of these dislocations in your career?
Yeah, well, I think so. I mean, as we talked about, I was blessed by when I exit
ed Cisco in September of 2000, right? So I made good money on that because I had
n't sold much of anything during the journey. And then as OpenWave stabilized as
 a CEO back then, you were making five or six points on the company. So that was
 nowhere near the Cisco outcome, but still very nice. Now, you know, minus some
percent, some big percent for your divorce, but I still, I thought...
You know, this was enough money, and did I, is that what I wanted to do? Now, wh
en I was at OpenWave, I was flying on the order of 300,000 to 350,000 miles a ye
ar.
I was...
And I was early 40s, but man, I came into a board meeting once and I remember on
e of the board members going, I've never seen it said this in 40 years of being
a board member and a VC, but you need to stop working so hard. Or you're gonna b
e dead. But it was, the business was all Japan, Korea.
And Europe. I mean, we were way behind in mobile internet technology in the Unit
ed States and Canada and North America. So you were on a plane. I remember, I re
member being in, going from San Francisco to London to San Francisco.
To Japan.
And then getting on what then was the longest flight ever on United, 17 hours, t

o be a host on CNBC, back when Mark was on, the big guy. And that was a three-ho
ur gig from 9 till noon.
And so, you're on the plane, I took my Ambien, I had my glass of wine, and I wak
e up, and the flight thing says, eight hours left. I'm like, oh, my God.
So, you know, you land and I go, and I, whatever. I get up at 5 and I go to a St
arbucks and I go to the studio. And they're very nice. He's funny. This is a fun
ny story. He's sitting there. He was very cordial, not engaging, but cordial.
He's in his suit and tie top and his boxers.
And he's getting his makeup put on, and he leaves and he goes out, and he's got
a giant bowl of Cheerios, which he keeps under the desk that he eats that commer
cial. And so we're going on, and as the news goes, it's like, do-do, do-do, Juni
per misses their quarter!
And I'm like, this is freaking fantastic. I know everything about Juniper. They'
re my arch rival in the telco business. So I was just...
Really good. I have to say it was really good. Little adrenaline flowing and the
n they'd go on and they'd stop doing this segment for the following reason, whic
h is then they'd start talking about global economic uncertainty and interest ra
tes, and I just looked at the camera and go, I got nothing, which I got praised
for at the end of the show. It's like, that's when people turn off the show, whe
n people don't know anything and they start yammering on. So...
I don't know, that whole period was...
It was enough. You know, in hindsight, those are the power earning years. Like..
.
I'd have a whole lot more money now if I didn't quit working after 25 years of w
orking, but everything is lovely. Don, are you thinking, again, I wanna get to r
eally when Canary gets running, at least in your mind, is it a soft retirement f
rom you from the telecom industry, or are you thinking there's a next chapter or
 I'm gonna keep myself involved in investing or consulting? Or how are you think
ing of the next stage of your career? That's the right question to which I don't
 know that I fully thought through the answer, but I do think, I think you're ri
ght. I think part one was, this is a soft landing from what has been a very hard
 four years, physically, emotionally, mentally.
The bank account seems fine, and
And can I do something to help? So that's the moment. Now, I continue to and sti
ll run this, my little venture firm, List One Ventures, and I do seed and Series
 A and all that kind of fun stuff. And I was more involved back then. That was m
y hand in the business. I was probably on seven or eight startup boards. So I di
dn't abandon that part of hopefully my talent, at least my engagement. But...
It id
It then started with...
Well, okay, I have figured out the ovarian cancer.
conundrum, which is you can't detect it early.
And is anyone working on that problem? And one Saturday morning, I sent out a se
ries of emails to major institutions after a good web search that had some amoun
t of ovarian research and said, you know, here's what I'm interested in.
and helping and
Make up a number very quickly, 30 minutes or less later, a woman named Pat McGow
an emailed me back from the Fred Hutch Cancer Center in Seattle. And Pat said, h
ey, we've got this great researcher, Dr. Nicole Kidman. That's not, that was not
 Nicole Kidman. I have met her at a cancer event. Dr. Nicole Irvin, and she's wo
rking on these things called biomarkers, which are, you know, blood tests or uri
ne tests to find this. And I went, well, great. And so,
I came up to meet
The director, Dr. Lee Hartwell, he wasn't in, but Nicole was in and others, and
I said, well, what's your biggest problem? And she said, I need a wet lab.
And, because I'm basically a mathematician and statistician, but I think the nex
t step on this is I think I know where I should be looking and I don't have wet
lab, and I'm, you know, not even in the top 20.
for doing this,
And so that's when I gave my first.
first million dollar gift.
And it's not easy. I mean, a million dollars, you know, at least in my age, you

grew up going million dollars is what you aspire to. So giving it away, even if you had more, is still a step. Don, orient me in the chronology here. What year was it when you emailed all of these institutions? Would this have been 2004? Yeah, it's 3-3-4. I'm plus or minus a year. 3, like, to make this the story. I can go back and maybe look at my notes as we do this. But I'd say, you know, late in 3.
Did you hear back from anybody besides the Fred Hutch from that initial outreach? Yeah, yeah, you know, people came back spuriously over the time, but, you know, I was...
As you have experienced, it generally doesn't take more than five minutes for me to respond to an email, so. Yeah, you're on it. I appreciate the same in kind.
And then, you know, like any good development director, she engaged me and wanted to understand what was going on. And, you know, she was like four days ahead of everybody before they came back.
You know, in team building...
I believe proximity matters. You know, there's old HR terms of, you know, storming, forming, norming, you know, and so we actually used that, I used that principle in Canary when we built teams. And so...
You know, I don't know. I mean, she set the hook, right? And said, you should come up. And OK, it's an hour and a half late to Seattle. I should come up. And I came up, and that's when the engagement started. Now, this is such an important point. I want to make sure I capture your perspective at the time correctly. There's a balance here, obviously.
On the one hand...
You understand that there are structural limitations in cancer biology and biomedicine. That's the basis of why you're reaching out to help.
On the other, you need to know your lane, right? You're coming from industry, you're not a medical doctor. How are you striking that balance where you both want to sort of point out an obvious limitation and offer to help, but not appear to be so overbearing or assuming that you know things that the medical community doesn't? How are you doing that at the beginning that obviously sets this whole endeavor off on the right foot?
Well, I would say I was pretty arrogant. I would just put that. You know, like I just finished helping build the internet and the mobile internet. I thought I could build stuff.
And I thought, which I think is true, that one of the things that was missing is there was really back in the early 2000s, nothing like team science. People were individuals trying to get their grant, get their breakthrough, get whatever it was. So my belief was bringing engineering principles and team discipline was the thing that was gonna be the game changer for what we were doing.
Additionally, over time, it also became a fact where I canceled stuff.
Right, you don't cancel stuff in the science business. It fails quietly into a whimper, but it still sucks up all the money. So, you know, we got into different models, which we can discuss when you want, but there were many different funding models, and I brought those from my experience at Cisco. You know, here's a, here's a, you know, I'd have a lunch with somebody and they'd pitch me on something that I thought was really interesting. And I go to my backpack and I pull out my checkbook and I write him a check for 50 grand in the first hour, right? It's like, go. Now, that would take them nine months to get the 50 grand from somewhere. And as we talked about earlier, the other thing that became clear as I learned it, is when you give good scientists money to get early data, they win the big grants. And that's been part of our success is the leverage has been 10 to 12 to one. Sure, sure. So.
So I think it was applying those things.
As I got into it, David, it also occurred to me, which I didn't know up front, which is still a problem, is that the economics around diagnostics is terrible.
Diagnostics get paid in this country cost plus, right? And people drive around with trucks full of blood going to mainframe processing centers. So, ah, okay, now the idea of...
You know, a PC instead of a mainframe, you know, made sense. And we talked earlier about my dentist saying, hey, I could do that. So...
It took time for me to...

The arrogant said,
I can help them with engineering.
The learning became...
I can help with team.
And then I can help with how to get leverage out of what we're trying to get don e.
And that's where things continued. Now...
Dr. Hartwell and
Came back and we met and we talked about stuff, and it was he, who is a Nobel Pr ize winner, he said, look,
This really needs to be a team.
And he said, we don't have all the assets of the Fred Hutch.
that we need.
Because the Hutch was largely a standalone research center, not a hospital, so t here's no imaging and others. So he said, you know, Don, what I'm good at is con vening scientists. And so I'm, with your support, I'm going to convene a team of scientists, and we talked through in the past who they were.
Go through that again, but...
to study something and see if we can come up with this new model.
And that's what we did. And the team, as I alluded to earlier in our conversatio ns, picked ovarian cancer because of how challenging it was, as opposed to the f act that my mom passed of it.
I wanna go back to that first visit up to the Fred Hutch. What were the big lear ning curves for you in the beginning? Even if you were coming from an arrogant p lace, what was the new information that you felt you needed to get read up on if you were gonna take this seriously?
Well, everything. I didn't know a damn thing. I didn't know a damn thing, right? I mean, you know, what the hell is a biomarker? What's the difference between a genotype and a phenotype? I mean, I, you know, there's, there's 25 years later, I still know, like, the scratch on the surface of it. So it became clear that, you know, I had to learn, but that had never...
seemed to be a problem, and human biology is all about...
Software code, right? DNA and, I mean, at some level you can start to make some comparisons, but...
Támh
You know, I...
I'm very instinctive.
And so I was like, well...

It's take a first step and see what happens. Now, what happened in that journey is...
As we were trying to discover biomarkers, and Pat Brown got involved, Dr. Pat Br own,
who I believe will win a Nobel Prize someday, who now has left that research com munity to be, he was the founder of Impossible Foods, Impossible Meats, because he's a passionate environmentalist, and he said, cows are killing us. And he had done some work, and he opened his laptop, which is very unusual, and said, okay , here's a selection of genes that I think we should follow. He just gave everyo ne the information, which should have been a paper. So we did, and what we disco vered along the journey, and it wasn't just me, it was everyone, is that these a ntibodies that you use to try to find these biomarkers, there are commercialized antibodies out there.
But what we've learned much through the path is that...
Cancer looks differently over what is generally a twenty-year
Journey before it becomes dangerous. And so you can find this stuff easy, except for it's stage 4, and it doesn't help you. And it doesn't look the same here. S o we set out...
And I did this through Canadian contacts and set up a lab in Victoria, British C olumbia, to build our own.
antibody bodies, which is not an easy process. So, you know, back to your questi on of what did you learn, where did you go, part of it was step-by-step, and we

ultimately ended up helping commercialize one biomarker called HG4.
which is a companion to CA-125, both of which are ovarian cancer biomarkers, but neither of which is powerful enough.
To be one and done, you still need imaging to complement them.
Cso
I don't know, you know, it wasn't, David, it wasn't a master plan. I've never really had master plans. I've surrounded myself with good people.
I...
Trusted my instincts and I've tried to be honorable and supportive.
And so, you know, after the ovarian team, well, then...
We started getting known more in the community.
We started a lung cancer team, which is still working in clinical trial in China.
And he's okay with this. Frank Quattrone and his wife Denise started our prostate cancer team, which is probably our most successful enterprise we've talked about, where now you can really help men understand where they are in the cancer journey and what they should do, where there was so much uncertainty in the past.
So we had, you know, we had team structures.
And then I had the individual scientists, and then I had the smaller things, and then that's when Dr. Gambier said, you know...
Maybe we should build a center at Stanford.
And then that idea came along, and this wonderful man who has since passed, Bill Bowes, who was a founding venture partner at USVP.
who I think was the founding investor in Amgen, he helped us, and he helped us start the Canary Center. So we went from that to today, where there are centers globally, which are not their Canary affiliates. I don't wanna be too overstep here, but I think we're inspired by the work that our teams have been doing. Let's go right back to the Fred Hutch, that initial million dollars.
What was the nature of the ask, and how did you determine in your own mind, you know, this is a good investment, this is something that's gonna yield what the scientists, what the doctors want to achieve? How did you assess those things?
Well, so you see, it...
To this day, it's clear that there is some sort of biomarker test required to alert people, and this was way, not way before, but BRCA1, BRCA2 genetic tests that predisposed people, mostly women, but men too, to cancer, it was not the rage. I mean, right now, the whole idea is...
Can you identify yourself as high risk through either genetic testing or family history? If you are, you should be more diligent. Okay, now what? Well...
Sometimes it's imaging, sometimes there's nothing with ovarian cancer, right? There's nothing. So it...
The pursuit for me was, okay, we need a blood test for this thing.
What I missed is, unless it was damn near perfect...
No one's picking up the scalpel anyways because the incidence of the disease is so low that false positives can be so high.
So that was learning along the way that you got to have a confirming test, biopsy or imaging, to be able to have a surgeon actually engage. But, look, I like Nicole.
Pat had won me over. I got a Nobel Prize winner saying, I agree.
Like this vision was Lee's vision, not mine, of the one-step, two-step.
Mine was the brute force engineer coming in and saying, okay, I'm going to break this bridge down. What's the next bridge? But I thought Nicole's approach was the right one, but she didn't have the kind of support in the lab, so I said, I'll give him a million dollars for the lab. Now, that stuff can be disruptive, right? Someone who thinks they're going to get a lab from the institution, and next thing you know, your neighbor got a lab. Well, it's because your neighbor was working on something that somebody cared about. So that, none of that has ever changed probably over a hundred years of research. But, you know, we got going with Nicole, then some more for Nicole in around that, and then I approached Lee and said...
What about if I had ten million?
What could you do here that's different than what we're doing on the ground? And what was the answer? What could you do with 10 that you can't do with one? The

answer is he could build, he would build with support from the internal leadership there, an early detection group. And notably, what was missing, the hot technology at the time was proteomics, so the study of proteins. There was this belief that
which is still true, but that as cancer develops early, there are unique proteins that are shed from the cancer, and if you could differentiate them from the normal ones, and so proteomics did that. They used mass spectrometers, which measure the...
the time of flight of molecules across two surfaces, and by that time, you could assess the mass of the vehicle, of the protein, and you could identify it. That was missing at the Hutch at a scientific level. So a big part of that money went to recruiting a guy named Sam Hanash and a woman named Mandy Polovitch into the Hutch to round out that proteomics. Ultimately, Lee said, we need imaging, and that's where Sam Gambhir from Stanford got involved, and then some of the genetics whizzes like Pat Brown and Pat McCormick from UCSF. OK, so we're oriented in the chronology. Now institutionally, let me just make sure I have all of the players involved. So we start at the Hutch, and then where is Hartwell?
Hartwell is the director of the Hutch. Okay, Hartwell is the director of the Hutch. And then where else? Is there any other steps before we get to Gambier at Stanford, or how does Gambier enter the picture? Yeah, so the ovarian, so there's Nicole's lab, biomarkers, then there's, can we do an early detection?
I don't know, center is too big a word, but whatever, at the hutch. And Lee said yes, and he is a very consensus-building leader, and people said, yeah, good idea. And then that's where the initial money goes. And of course, you know, in medical research, like, there's three prices for stuff, $250,000, $500,000, and $1 million. You know, they start with the price and see what they can put in to sell to you.
So proteomics machine mass spectrometers were expensive devices, so that chewed up, you know, a lot of dollars. But once that got done, he's like, you know, let's do this team thing. And that's when...
Like, who else came in? Peter Laird with the methylation specialist from Southern Cal. Pat Brown, I talked about, Howard Hughes investigator at Stanford.
McCormick from UCSF.
I'm trying to go around the room. Marty Macintosh, a brilliant guy and statistician from the Hutch, joined for data analysis.
And then Imaging, it was Sam, so make up the number, there was eight or nine of us in the family room when we had the first meeting. And then when exactly during this process do you think, I need something more than being a guy who writes checks and there needs to be a foundation, there needs to be a nonprofit that's associated with all of this? Well, I was running out of money. That'll do it. That'll do it to you, you know. Well.
I think we had established a pretty good reputation, and I thought, well, you know, it's not that hard building a 10-person organization for someone who has experience. So, um...
I was flying up with my buddy Dale to a Hutch meeting, and...
And we were brainstorming on, we had already decided to do this foundation, and then we were brainstorming, and that's when...
One of us, I think it was me, but he'll, he's a really good buddy, he'll say it was him, came up with the idea of Canary for Canary in the coal mine. And so, you know, when you say that to someone who's 30 years old, their eyes go, what the hell are you talking about? You say it to somebody my age, they go, oh, I totally get that. And so that's when Canary, and I started with Canary Fund.
which
it ended up being a mistake. We still legally Canary Fund, doing business as Canary Foundation, because I got emails from all sorts of venture people going, what are you doing? Why didn't you talk to me about it? But I was like, no, no, no, no, I'm doing cancer research. I'm sorry. So when that officially started again, you know, we're talking 20 plus years, David, but I'm guessing 04, 05, and started, you know, reaching out to people.
I'd say the core of the foundation's success early on was people who thought...
That I could run this thing more like a business than...
What feels like for 100 years, what the black hole of cancer research funding ju

st goes in and nothing comes out. And so that was, you know, the best example of that is the quatrons and the prostate stuff. Man, there was like an eight-page letter of agreement on milestones and what was going to happen and when. And then when you delivered, they gave us another bigger gift. And same thing with Bill Bowes. Well, build this, do this. OK, yeah. So it was a bit of a venture run exercise, if that makes sense, on building trust. And you know, I had a good reputation from the industry B. And then Mr. Valentine, my father-in-law, had, you know, lots of contacts. But like, I knew Frank years ago. And so...
You know, that's where it went. On an aside, it's interesting where...
It takes, you know, people who are working full-time in office jobs aren't very philanthropic.
Because they're thoughtful, and they don't want to just throw money at stuff willy-nilly, right? So, you know, Steve Ballmer and I became good colleagues through the Cisco-Microsoft relationship, and I said to him, you haven't done much. He said, I'm busy running one of the world's biggest companies. Leave me alone. I'll do it when I retire. I said, OK. I get it. But, you know, for me, that whole class of investor and canary has basically passed. And so, you know, the question is.
You know, for me, how do I continue to get money that's not just my own money to move things forward? Don, so it sounds like if I, let me see if I've captured this correctly. The idea is, you know, as you were joking before, once you start running out of your own money, you're being, you know, you're being very generous. You're excited. You're writing checks, but this is fundamentally an unsustainable business venture. The idea with Canary is that...
You are a known entity in the tech field. You have now built up all of these relationships in cancer biology and biomedicine and oncology, and so that basically your peers, the investor class, who might not have the time or the inclination to do all of the homework that you've already done, to do all of the relationship building that you've already done, you're basically a proxy where they're saying, ah, Don knows what he's doing. I'm happy to help. I'm not going to develop these relationships directly, but I can trust Don that if I give money to the Canary Foundation, this is going to be the best bang for the buck. Is that basically the idea? I tell all my kids and grandkids, there's only three assets in the world.
Time, talent, and trust. Right? And you can find faith, you can find love, you can find whatever you want in a combination of those three things. And the core asset I had with the investment group was trust. Both that I could get it done and that if I couldn't, I would be honest and tell them I couldn't get it done. So...
You know that? And to this day, you know, the brand is strong, and, you know, many people, they think brands are...
catchphrases and things. And I had a very good head of marketing guy named Keith Fox that came and worked with me for me at Cisco, and he came from Apple. So it was great. And he said, no, no, a brand is a promise of an experience.

And so...
And core to that promise at Canary is being trustworthy. So there's a new big foundation just this year interested in...
Early cancer detection could be as much as ten figure.
Foundation, and they said, we found us, we did all our research, and everyone says you guys are the cat's meow. And that's 25 years of trust. Wow, wow.
Don, the obviousness of the importance of early cancer detection, right? Just to play devil's advocate for an investor that says, you know, I want to give to, you know, a St. Jude's or I want to give directly to a medical school or to a university. What is the hook for the Canary Foundation to say, this is really the part of the puzzle that we're focused on in a way that no one else is? What is, I don't know if it's an elevator pitch, but what's that message to the people who are on the fence? Yeah. Well, look.
This business of this cancer philanthropy is the most competitive one I've ever been in in my life. Interesting, interesting. Most competitive, right? You've got hospitals selling hospitals. You've got doctors selling doctors. You've got or

ganizations selling disease, pancreas, ovary, whatever it might be, right? And 80% of the people are...
emotionally invested in either the disease, the doctor, or the institution that they went to. So right away, in this sort of intellectual pursuit, you're behind the eight ball. So you've got to be able to go to people like the venture people that I did and go, here's the disruption.
Here's why it's gonna work, right?
And be able to talk through all of those different nuances to their satisfaction. So...
You know, that is, it's very clear, the facts are clear.
Right, but then people go, well, if it seems so self-obvious, why is it that you can't sort this?
And you can go through the statistics and the math, and the simple answer is...
The face of cancer over 20 years looks different. And so when you've got diseases like ovarian and pancreas cancer that don't present early on, you don't have any samples. Our biggest problem in those two diseases is you don't have early stage samples to study because you only get lucky if a woman has a hysterectomy.
And the doc goes, I'm really glad we did this because you had stage 2 ovarian cancer, you know, and we took out everything.
So,
И...
There is a unique...
swat
That matters. This new, bigger foundation...
disease in the family, there's a particular disease, which I'll just keep offline, that they're interested in, that we've been working on, but have been underfunded.
And I hope it's a breakthrough, but, you know, I'm at this point now where strategically...
I believe...
The rest of the technology development in genomics and biomarkers, it's all moving along nicely.
It's imaging that's a little bit behind, but it's a giant industry with a lot of money in it. So finding new products for that industry makes good economic sense for them, and that's where I'm mostly focused over the next five years.
Don, I wanna go back to the origin point with Stanford, because institutionally, of course, that's what brings us together. Tell me about the connecting point to Gambier and why this was compelling for you.
Well, the
Well, number one, it's five miles from the house, right? So, and as I, I digress, but as I built teams, I was, and people did not like it, but they were West Coast teams. Because I said, we're going to get together every six or eight weeks. I need face time. We need to build trust before we can Zoom, you know, it wasn't even Zoom or whatever, before we can get to that norming kind of phase. So, you know, great guy in MIT. Nope, because you're not going to come out to the meeting and you're going to try to get on the phone and it's not going to work. So when we built the ovarian team, or when we were going to build the team,
Hardwell said, we need imaging. And he said, it's Gambier. He's the guy who innovated in PET and innovated in all these different structures over time. I think it was at the time when he moved from UCLA, it was the biggest move Stanford had ever done. $50 million and I think 50 people came with him. Wow. Wow. So that's, so it was Lee's introduction that, you know, solidified that and then Sam's help got us in, you know, in the door and then started to, you know, make this pitch about a center, which now is turning into...
God willing, an institute of a much broader scale.
dat Joe diesmon is
Yeah, wow, so exciting. Dan, you mentioned, you know, building out the foundation, 10 people.
What are the areas of expertise? What is obvious to you? Where are you bringing in outside counsel to say, who do I need to make this all work?
Well, I don't know that I needed outside counsel. I mean, it was the number one challenge we had in building these teams were the general counsel's office at th

e universities, who said,
what do you mean, we don't own this? I said, well, there's 10 universities worki ng on this. And their whole model for all the years they'd been in this kind of business was, well, there's one company, and there's one drug, and there's one r oyalty stream, and that's how that all works, right? And I was like, so who, so I must have had a dozen meetings. Here's the 10 people working on this. Here's t he workflow. Who owns this?
And they said, well, are you gonna own it? I said, no.
bar
You can't own it, and you can't own it, and you can't own it. We're just gonna l et people have it.
So that took a one or two years to kind of get through the rat hole. And is that done? Is that a new model in the field, not having sort of a proprietary sole o wner relationship of any technology that comes out of it? It was 25 years ago. W ow, okay. Interesting. Yep. Not now. It's not now, for sure. I mean, everything is about, you know, teams and doing things.
Пач
You know, so we had to get through a bunch of those hoops. Sam was very influent ial on campus, you know, one of my best friends and a great guy, brilliant as th e day is long, but also humble and could make...
Complicated subjects.
digestible
And so he really was the anchor in Stanford, and then...
I don't recall, I think he brought Bill in, because Bill Bowes was funding BioX. So he also said, why is no one working together on this business at Stanford? A nd so there's a program, a big program now called BioX, which was all of this bu siness of, you know, exchanging things. Now, over time, we got to the point at S tanford where there's dozens, if not 100 plus affiliates. So Jim Brooks, a prost ate cancer doc, well, he's not on our payroll, but he's doing research on the pr ostate team, right? And so you just ended up and, you know, we built a place whe re the water seemed warm and people were.
Wanted to be part of, part of the party.
What was the first product or first idea where you had to think about, okay, we now have this new non-proprietary model, but here's how we're actually going to deal with it because it's a real thing now. What was that?
Was it a drug? Was it a technology? What was the thing where you said, oh, this is actually working. We need to figure out how it all comes together. Who gets c redit? Who gets paid?
Havneanlæg.
I mean, the HE4 biomarker we talked about earlier, we helped nudge through. That was the...
Someone else, I think it was in Seattle, had actually come up with that. We help ed validate it, and then it ended up going to a company, which we just, like, I was just like, hey, how can we help you get this commercialized? Outside of that ,
There had not been, you know, any commercial successes. Now, I'll back up and sa y...
There have been at least 10 or more spin-outs from the Canary Center and Sam's i maging labs on technologies in and around this, but not necessarily, you know, d oing biomarker testing on your iPhone.
Right, I mean, a number of people have done that, and I digress a bit, but I had said, and I have to be more careful when I say it, is...
If these people, who are the best and brightest in the world, can go to Google.. .
and make more money.
We got to at least give them a path to consider.
commercializing their technology and making some money on it. And so that, I'd s ay I have nothing to do. Stanford is particularly good at that, and we encourage d it and we supported people, and I still to this day help people understand how venture rounds work and why they only get common stock and not preferred stock.
So, so there have been those successes, but there hasn't been...
The clinical success.

that you can go, we did that.
Now, I think it's gonna be in imaging. We've been working on this microbubble st
uff for 12, 15 years, and I actually think the team is getting close.

But, you know, the vagaries of this, the bubbles we were using were from a compa
ny called Bracco, Swiss-Italian private company, family held, and they fight abo
ut, well, I don't want to do ovarian cancer, says the brother, because the marke
t's not big enough. And the sister says, why don't we just save some lives too?
It's only bubbles.
So, you know, you gotta work your way through that whole...
Pretty fragmented. Whenever you're doing anything new, it's highly fragmented, a
nd, you know, you're...
You're betting on startup. You're doing a startup yourself and you're betting on
 startups. It's tricky.
Don, it's a great opportunity to ask you to reflect on the legacy of Sam Gambier
, what he built, and if you connected with him, because I know that he experienc
ed tragedy in his own family that...
was obviously a big impact on what he worked on and what his motivations were. W
ell, yeah, I mean...
It is sad for the world and it's sad for the community that he's no longer with
us, because he was brilliant and an inspiration and respected and loved. The tra
gedy is triple-fold.
His son, his wife Aruna,
P53 mutation.

ended up with multiple surgeries.
Devastatingly hard.
Their son, Millin, ended up with glioblastoma at 15. He died first.
Despite an incredible effort by our entire team and a shoutout to Duke,
Am
And then Sam...
At Buck's Restaurant some years ago,
Said, you know, you know, Don, I haven't been feeling well, and I said, yeah, I
know, I'm trying to get you to a doctor. And he goes, well, we've discovered I h
ave cancer. And I'm like, oh.
Excuse me, we can edit this right? What the fuck? Yeah, I have this thing called
 tumor of unknown origin.
I'd never heard of it, and I was like, give me a break.
So this is a cancer that manifests where the immune system jumps on it.
And it's so rare that there's no real...
Practice. Half the community says your immune system is getting it done, leave i
t alone. And the other half says it's cancer, dummy, go do something about it. A
nd...
through a torturous, torturous...
Set of...
Interventions, they didn't work and he died. So, I mean, that entire family, the
 tragedy, and then partly what set us back was Jürgen Wilhelm, who is our VP of
strategy at Canary Center.
He ended up dying in a car accident in and around that same, and he was the lead
 on the microbubbles. So between that and the pandemic, we've probably lost five
 years of progress.

Tell me about connecting with Joe.
Well, I'm happy to say I flew him on my plane with a couple of friends and his..
.
brother-in-law to the Philadelphia game, and we kicked their ass, the Niners kic
ked their ass, so that was fun.
Um...
When Sam was...
Sick.
There was a kid who had been, and I'm gonna be delicate here, he was being recru
ited by Harvard.

to become the Dean of Medicine.
I think you wanted to stay and be the dean of medicine at Stanford.
They gave him
an outrageous offer.
have both money, faculty, and facilities. It was a family conundrum, you know, A runa's like, let's get out of Dodge. Sam's like, I got 500 people I brought here .

So ultimately, Stanford countered with a spectacular offer, which involved this group called AIST.
and a broader vision than just early detection.
Early intervention, I would just say, is the addition to it.
And, um...
And then as he got more and more sick...
the dean of Madison, Lloyd Minor, reached out, and I don't remember the chronology exactly, but we ended up building a chair.
In Sam's name, which was ultimately the funding that brought Joe. And Sam said to me before he died, he said, this is one of the best scientists in the entire world, like on three academies of science, nobody's ever done that. And...
You know, we, he's an A player, I'm a B player, and I was like, well...
I don't dispute that Joe is an A, but I will push back on Sam being a B, but...
So, you know, I have not spent a ton of time with Joe yet. I think what he's doing is, what he describes, and I'm fine with, is a reverse merger, taking the Canary Center and merging it with a bigger...
financial pot of ACE and its capabilities and keeping the canary brand, which I'm proud of. And, you know, we're still in that progress, in that process, you know, that Sam made this Don Liston Award for our annual symposium, which makes my skin crawl, I have to admit. And...
And so recently I said to Joe, look, I wanna split it, I wanna bifurcate it, and I wanna make the Sam Gamveer Award for scientists, and I wanna make the Don Lessman Award for support and staff, people who are...
lifting heavy statisticians, all the rest of the people that make this world turn. So, you know, that's one of our first projects and his...
You know, nothing moves quickly in institutions, and especially Stanford, but...
I think it's the beginning of...
of the next generation of what it can be at Stanford. Time will tell, but, you know, we've got the talent, and we've got the money, and we've got the motivation. Well, Don, that brings our conversation then right up to the present. What exactly will it look like as we're in this sort of transition period from center to institution building? What will be lost and what will be gained as Canary sort of, I don't know, folds into this operation, loses some degree of its independence? How are you thinking about these things now?
I don't know yet, David. What I will say is it'll be different. And I will say the people Sam recruited may not, you know, it's been a long time, 10, 12, 15 years. They may move on.
But I think that Joe will hold the broader...
am
The broader idea, I mean, some of the stuff he's working on...
You know, patches to deliver drugs can be used to actually take blood. Like my daughter is deathly afraid of needles, so if I could just put a patch on her forearm and get my biomarker, I would.
Yeah, what Joe's better at than Sam was...
is getting out there and talking to rich people.
Just to be, right, talk to...
the Walmart family or whoever else is out there, and he can project.
Sam could do it, but he would rather be...
Worked in 72 hours on an NIH grant because he knew he was gonna get it. So...
I think Joe brings some gravitas that that will be helpful. It's just unfolding as we speak, so, you know, as you say, you're cautiously optimistic, we'll we'll see where the duck lands.
Don, I use the term soft landing in your technical professional career. Do you t

hink that this is the way that eventually...
You can let go or step down from the level of activity that you've maintained fo r the past 20 years by rolling this into Stanford and not keeping Canary as a se parate entity where there's a successor that takes your place?
Yeah, so Kevin Kennedy, we talked about earlier, kind of gently chastised me on saying, why after 22 years would you just let this go? And so I think...
On one level, the fact that Joe is willing to integrate and develop under the br and, which is about trust, is a big step forward. Right now, I'm as energized as I have been. During the pandemic, I was like, you know, I'm putting on Iron Man 3 and watching on the couch. But, you know, right now, I'm energized. I think t here's new...
funding sources that are substantial, which are great, and then trying to build a new imaging center for ultrasound at UCSD, and so that's my number one priorit y. And then bringing more attention to pancreas cancer, I think there's an oppor tunity there. So the foundation and me will be here for another decade, but, you know, it'll be in that...
business dev, market dev role. Like, we have...
one full-time program manager and then three part-time.
admin staff and me.
You know, so...
But Heidi's great. She's our PhD from Yale, and she's a program manager on the t eams and just keeps them clicking forward for us. So I'm not going anywhere for now. And you know, I've got two big initiatives that I want to get done in the n ext 24 months, pancreas and ultrasound. Don, do you think in this new political and budgetary brave new world we find ourselves in, where the federal government , of course, the Trump administration, is cutting back funding, is there a renew ed sense of importance that the canary model, the ability to interface with the private sector, the ability to interface with wealthy individuals, is that takin g on a renewed sense of importance right now just because the dollars might not be flowing from the agencies? It certainly is noisy out there and people reachin g in. And so next week as it turns out, I have a whole series of meetings with t eam leaders about what are the implications. Even just pragmatically, we have so me of the best
agreements in the world with institutions because we did them so long ago, like low overhead tax and stuff, and I don't wanna lose those, right? So, you know, o ne of these new big donors, I said, look, she said, Should I give the money to y ou or to Stanford? And I said, Right now, you should give it to me because I got 7% and you're gonna get 20, right, when you go in as a new donor because they're gonna be freaking out. So we have an asset there.
How long is viable, I don't know, but I would say in a word...
Everyone's confused.
Everyone's confused, but you do have, there's a model that you have that can be emulated and that can grow. Absolutely. So, you know,
Is private money
Triply valuable now? It absolutely is. Yeah, yeah.
Well done. Now that we've worked up to sort of figuring out what might come in t he future, I think it's a little bittersweet, but I think we could wrap up these wonderful series of conversations. Let me ask some retrospective careers to bri ng it all together. Let's start first...
In what ways do you feel like all that you've accomplished in this space...
is a way to honor your mom's legacy. And I wonder if you've thought about all of the moms who are still with us because they were luckier than your mom. What do es all of that mean to you as you reflect?
Well, I haven't succeeded.
All right.
Em
I think I can before.
Igo.
Pá.
I think we can.
Meaning that the motivation right now is that...
Sadly, devastatingly, there's still too many other moms like yours.

Even 20, 25 years later. Yep. I mean, right now, the tools we give women like Angelina Jolie, oh, you're bracket one, bracket two.
Cut off your breasts and take out your plumbing. Holy God.
We can do better. We will.
So your perspective is...
25 years, 50 years in the future, we'll look back at this.
We're still in like the barbaric period of cancer care. Boy, before antibiotics, we'd just say, how far is that infection? And we'd cut off the arm. Right? So I think we're very glad. I mean, everything else...
Genetics, proteomics, methylation, all those technologies continue to get twice as good every year, and we will understand this problem, as long as at this point, there's enough money in the system. In the past, there weren't enough IQ points.
That problem has been solved, I believe. There are enough IQ points and enough people dedicated to trying to get this solved.
The other part, and why, you know, you think about it, where's the big money in these industries? Well, NIH funds.
Drug companies fund
And imaging companies fund. And the next goal for me on a market development point of view is to make the imaging companies give a shit about this new technology that can save lives.
and money for them.
If there were any do-overs for the past 25 years, knowing all that you know now...
Would you have done anything differently? We need another whole session, dude! Come on, come on. What sticks out in your memory, knowing all that you know now, is there anything that you would have done differently as you approached this from the beginning? The people you talked to, the things that you funded?
Oh, if I knew what I knew now...
I would have tripled down on imaging a decade ago. Why?
Because I think that's going to be the answer. I think what we've learned is the infrastructure exists.
It's there, and all we need is, I mean, my God, this ultrasound stuff for ovarian is an injection that can be done in a GP's office. There's no cost structure, it's easy, and...
What I knew now, I would have accelerated that, and I don't know if I could have given what happened with Sam and his family and whatever else, but...
Well, I'm gonna freaking do it right now. Yeah, yeah. All right, so let's look ahead then, Don, the next 24 months. You mentioned two big initiatives. What's the best case scenario? What's the outcome there?
Um...
Ai
Establish a relationship with this funding agency on pancreas that is strategic, not tactical, and I get a relationship at UCSD to build the world's premier cancer ultrasound detection lab.
Who do you need beyond your own Rolodex, beyond your own capabilities? Who else needs to be brought in to make this happen?
or no one. All the things are in place already.
Um...
The wild card is the administration and the funding.
And whether or not that screws up the UCSD stuff.
That's my wild card that I got to work on, and I don't know how to mitigate that at this point. I mean, who knows, you wake up every morning and go, what the hell happened today? But on the other front...
I think the trust that we've established...
allows us to continue to move on. I did say, I would say to you,
I do wanna see...
I think there's an opportunity for progress in the ovarian biomarker stuff, and I'm having a meeting with the head guy.
Chuck, we've been doing this 25 years. What I don't want over the next five years is projects to fund scientists. What I want is, take a swing.
Say, I think this is our best bet, take a swing and I'll fund it. Because we've

been doing bottoms up for 25 years and we're no closer than we were.
That's a hard-nosed engineer's kind of way of looking at things, right? Well, Do n, on that note, two more questions to wrap up all these wonderful conversations . As the Stanford Canary partnership develops into an institute,
Five years out, 10 years out, 15 years out, however you measure your own persona l timeline, your own personal involvement, what are you most excited about in th e ways that this could develop?
Ou!
I...
It's a good question. I would say...
if it
we wēr
The gravitational center of this, and then Sam died, we weren't. And I think bei ng able to make that happen again and provide the leadership. You know, I, an as ide, I go to these conferences, these annual conferences that Cambridge and Port land and ourselves, and we fund and everyone comes. And some of the conversation s are the same conversations we had 20 years ago. Yeah, yeah. So I've reinserted myself and I said, look, people.
We've done that. We know the answer to that question. And for instance, you know , it's like we had this one group from the UK come in and say, well, we have to provide equal access to everybody. And I said, and I stood on the stage and I sa id, absolutely not.
I said the way technology development works is the rich get it first.
And then they drive the cost down, because it's elastic.

And then everyone gets it. Remember the cell phone. Remember internet access. So I don't want to get distracted about you doing anything but Cambridge suburbs a nd proving out the technology. So I got to get more vocal because a bunch of thi s stuff, we know the answer to, and people are rehashing old conversations, whic h we've put a fork in.
Sorry, that was a little aggressive. No, it's uh and born out of well-founded fr ustration that uh the needle has got to be moved, right? Yeah, yep, absolutely.
All right, Don, one last question. I'll make it, I'll make it a challenging one for you, but it's an important one. Let's say, let's just imagine, you know, bey ond our lifetimes, 50 years from now, 100 years from now, you gotta hope that...
Cancer is going to be something that is solved, or at least highly solvable. It' s in a way better place than where we currently are circa 2025, both on what you 've achieved up until this point and what you know is achievable in the next X n umber of years, not in terms of your own personal legacy or in terms of people c elebrating or even remembering your name. What's most important that you feel li ke you have accomplished and that you want to accomplish that gets us from where we are now with all of the limitations that you know as well as anybody to wher e you think we can be, which is, of course, what is motivating you to stay on th is train to get there? Well, look, I think the technology will get there. 10 yea rs ago, I wouldn't have said that to you, but I think we will. What needs to shi ft in developing nations is the business model to deliver it. Because even in de veloping nations, it's different in, you know, there's no research funding in th e UK. There's all sorts of delivery funding. So sometimes you go and work on del ivery in a country like that. So do I think 50 years from now, cancer will large ly be?
dealt with in a pretty easy, perfunctory way, I do. Now, the other 10 billion pe ople in the world, I don't know. And that's a problem above my pay grade. But I think that if we can solve the delivery problem and the technology problem,
Somebody else can solve the problem, or...
The scaling issue. The scaling issue. Okay, what a legacy.
Don, I wanna thank you so much for spending this time with me. You're a legend i n the field. There's so many people who admire you. If I have done my own little part to get the message out for the magic that is Don Listwin, it's my great ho nor to do so. So I wanna thank you so much for spending this time with me.
It was great fun!