Computer History Museum

Oral History of Steve Blank, part 3 of 3

Interviewed by:
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Hancock: Welcome back to the Computer History Museum, Steve.

Blank: Thanks for having me back yet again.

Hancock: It's our privilege so thank you. Today is November 5th, 2019. I'm Marguerite Hancock.

Blank: And I'm still Steve Blank.

Hancock: And you're still Steve Blank. So, we were just finishing with the story of Rocket Science, and I wanted to start today with where you began with quoting what you said here. You said that, "I was ready to knock it out of the park at Epiphany, because it was the phoenix out of the fire," and you said, "I don't know what, but I had learned a ton, and so I don't think any of this would have happened without this failure at Rocket Science. I don't think Silicon Valley would have the lean startup."

Blank: Yep.

Hancock: So that's where we're beginning with Epiphany and then onto lean startup. Let's start with Epiphany. You were coming out of this really difficult experience, and then this new idea. Tell us about-- you had a familiar partner but a new idea and new company.

Blank: Yeah, though this one I want to give all the credit to Ben Wegbreit. Ben had been my boss's boss early in my career at Convergent Technologies and my peer at Ardent. He was president of Convergent before Ardent, and then he went off for a career as a venture capitalist at Hambrecht & Quist. And there he had seen the rise of something called enterprise software. H&Q participated in a bunch of the early offerings in that space, yet I had never heard of enterprise software. I didn't know what it was, never had dealt with corporate other than as customers in the engineering group.

But one day I'm sitting around trying to think about what's next. I'm consulting, this is after Rocket Science, and Ben comes by and he starts talking about this thing called enterprise software. He says, "Steve, they've automated customer service and support and they're thinking about automating sales, but, no one has automated marketing, and I said, "Ben, why are you talking to me about it? I don't know anything about enterprise software." And Ben says, God bless him, "Yes, but you are the best marketing person I know in Silicon Valley. We could figure it out together." I said, "Ben, that's the stupidest idea I've ever heard," and I don't know what else I said, but I remember sending him away.

And I think it's pre-Internet, or barely Internet, and there's not much information online [about enterprise software]. But the more I started thinking about it, much like everything like Ben and Gordon Bell told me in my life, it usually takes me days or weeks to percolate through a slow process, until I went, "That is a good idea," and I remember going to Ben's house and sitting around and talking through the idea which eventually became Epiphany.

Ben and I were the co-founders, and based on his idea, we were going to automate the function of corporate marketing. And then, who should we get to build the software? Well Greg Walsh who was one of the architects at Convergent. Greg was just coming off of a trip in a sailboat -- he and his wife sailed the South Pacific for a year, and Ben was tied up, and he said, "Steve, why don't you go recruit Greg?" I had dinner with Greg, and after that I get a call from Ben, "What did you tell him? He's not interested!" I said, "Well, I told him all about the market opportunities." He said, "No!" Ben, of course, then goes back and talks to Greg for about 20 minutes who then joins. And I said, "What did you say?" "Well, I told him how tough the technical problem was," and that was the relationship that Ben and I had…

Greg, of course, architected a spectacular system at Epiphany, and became the mentor of a whole generation of great engineers who have gone off to great things themselves. Then to make a long story short, as we were testing the idea, somebody I knew from earlier, Joe DiNucci was at Silicon Graphics. As I was showing him my slides. He says, "That's a great idea. That's a wonderful idea. This is the best idea," but he's smiling as he's saying it, and I'm realizing, he's just screwing with my head. I go, "Alright, Joe. What is it?" He said, "We already built it." I went, "What?" Basically, at Silicon Graphics, they had built an internal system called Mind Your Own Business and it was basically, well, the first idea we had about Epiphany. I said, "Who built this?" He said, "I'll introduce you to him, if only you'll take me to Epiphany if you get funded." And so we met our fourth founder, who was John McCaskey, who had literally written what we had thought of as a first release of Epiphany. So Ben and I and Greg Walsh and John McCaskey were the four founders of Epiphany.

Hancock: Put us in the context of the year, also?

Blank: 1996. So we tried to get funded, and we were calling it enterprise marketing automation, or enterprise corporate automation and then ERM. And what we didn't realize, and Tom Siebel did about 18 months later, is that we invented this category called, CRM, but I wasn't smart enough to label it as clearly as he did. But that's what we invented, and you would have thought the entire industry would have rolled out the red carpet in the venture community and given us a check.

We spoke to 23 VCs. Half of them I finally understood, (because by then I had some friends in the venture community) thought Ben was toxic, because they knew him from H&Q. And they said, "This is the last guy--" Ben wanted to be CEO and I didn't care. I said, I'll be the VP of marketing, or whatever, and they said, "Not if Ben's in the company." I just knew that was a mistake. I had worked with Ben now for almost 15 years and knew there was no one better to build the technical team, and I was going to do this company come hell or high water with him.

But finally, after enough of these rejections, I had to sit Ben down, and it was like talking to your dad about sex, and I had to say, "Here's the deal," and I said, "I think we could get this funded if you promised that when we scale, we'll hire a suit who could take the job and take it to the next level." That was a very uncomfortable-- and God bless Ben, it obviously was an uncomfortable conversation. Again, it was like talking to Dad, and he said, "Yeah, okay. Whatever it takes," and we got funded by-- I think even they would have said, a "B class" VC.

They had just formed a venture fund, but I had sat on the board with Sam Lee of I what was called Infinity Capital Partners. I had gotten some other term sheets, but, Sam said if I was ever going to do a company he would write me a check, and good to his word, on nine slides we raised, back then, the awesome amount of four million bucks for an A round, which essentially today is a seed. And it was a seed, because all we had were slides, and we started building the company.

And Ben went around-- and it was the beginning of the bubble in Silicon Valley. Netscape, I think, had gone public in '95 and there was a race for talent in Silicon Valley, and Ben did exactly what I thought. I mean, not this tactic, but just genius Ben. He put every computer science professor in the country in research universities on the payroll, meaning as an advisory board member, to talent spot for us, and instead of just going after Stanford computer science grads, he basically was running around the country at Cornell and other places, getting the best and the brightest who were already spotted for him and running seminars about the future of enterprise software. So we built an amazing-- We-- Ben built an amazing team. Meanwhile, I got to get out of the building and take every lesson I had learned in previous companies, and the ones I had forgotten at Rocket Science and apply them about getting out of the building, understanding customers, understanding customer needs, and hired some great vertical marketeers.

And John McCaskey along with the engineering team, helped define the product. John was head of products, Ben head of engineering, I was head of sales and marketing, and Greg was architect, and about nine months later we ship a product and I think I mentioned this, though I'll say it again. Because John came from SGI, he already had working software, and so I said, "John, why don't you see if you can take your software on the road with you?" He said, "Steve, I can't take--." I said, "No, no, no. Ask SGI and we'll give them unlimited rights and an option to invest in our first round," and they were so mad, the VP of sales, I forget who it was, or VP of marketing at the time, was so mad at John for leaving, he said, "Take your damn software." It was the second time SGI left [money on the table with me]--

Hancock: No strings attached. No licensing?

Blank: In fact, three years later, when we went public, I sent the VP of sales a copy of our red herring, because our market cap was larger than theirs. As I said earlier, and it happens all the time, disruption doesn't come with a memo, but every once in a while, you ought to think that it might. Here was another memo to SGI. So John came. We shipped the product, within a year had three million bucks of revenue that first year, second year fifteen million, third year one hundred twenty-five million dollars of real revenue even though it was a bubble, and about year two we got off on the next round.

I'll make a very long story short, Kleiner Perkins and John Doerr did the deal, and back then Kleiner Perkins was "the name" along with Benchmark at the time. We used Benchmark as a stalking horse to get KP interested. Back then still, you could not go public without a fancy suit, meaning an MBA or a brand name, and the rise of the first Internet bubble was a race to liquidity. And back then liquidity meant an IPO, and so you needed a name brand to take you out. It's why Google hired Eric Schmidt and others had names. So John Doer, God bless him, actually did what he said he was going to do, and helped us hire the COO of KPMG, someone named Roger Siboni. Roger had been on the boards or sat through

board meetings of lots of technology companies, and certainly believed he understood how to run a technology company.

And if the bubble hadn't ended, he probably would have been the right guy to go to a billion dollars. But there were a couple of fun transition points in that. I remember when we were trying to hire Roger, one of his requirements was that he wanted to be the fifth founder. Well, what did that mean? Well, he wanted the same equity as us. Okay, if that was the requirement, and Roger was a brand name. Ben and I had more voting power than John and Greg, so it was basically Ben and I on the phone call with Doug Mackenzie who was our Kleiner board member. Now back then, it's hard to believe now, but founders took token pay. We were making $60,000 a year. That was what you did as a founder. Hopefully, you were going to make it up at the liquidity event, which back then was almost always an IPO. There was no taking money off the table in any rounds. That was unheard of. So, we were living off of sixty thousand dollars a year.

But the deal was, Roger wanted a quarter million dollars. Wow, he wants to be, co-founder, same stock, but a quarter million dollars. So, I didn't think it was unusual to ask in this conversation with our board member, "Hey, Doug, we've been working for two years at 60 grand. Do you think we could get 120 grand a year," and I still remember a quarter century later, Doug's response: "You're just the f'ing founders. Who the hell do you think you are?" It was not a pleasant conversation. And I have to tell you, 25 years later, every student who's ever asked me what firm they should go to, Kleiner Perkins has never gotten mentioned. And when it does, I suggest that there are other firms to consider. Must be 150 to 200 companies that they've not seen. Obviously, to me, the founders are everything. In that it's a team that makes this happen. But that was not what you wanted to hear from a board member who got caught up in the moment, I think, and I'm sure 25 years later has also a different perspective. But Epiphany was great learning. We--

Hancock: There were some adventures along the way.

Blank: Huge adventures. But I took every lesson that I had learned to that point and applied it in a new field I knew nothing about, which was enterprise software. But we built a really successful company. Roger, to his credit, brought a lot of good, big company tools and techniques. At least the one thing that changed my life was that he hired Karen Richardson as head of sales, and Karen was not just good, but spectacular, and Julie Peterson as head of PR, both world-class people.

To Roger's not detriment, but I've seen this movie before, now that I work with large corporations – is that he didn't have a clue of what a start-up was. He couldn't even find the bathroom in the first week. His job and his skillset were world-class execution, and when we were in execution mode, he was probably second to none. The problem is, when the bubble collapsed, the company, and in fact the entire industry, needed to go back to searching for a business model, and that wasn't his skillset. But his execution, I think pretty good. For execution strategy a flaw of both Kleiner and Roger was that they had what I call "Tom Siebel envy." Not only did they want to be in CRM, which we already were, but they didn't understand what it was. So they decided to clone Siebel's strategy by doing acquisitions that in

hindsight were both inane and insane. But as a world class executor, I learned a ton [from Roger.] Sorry if it was so ugly.

Hancock: Well, I was just thinking about this arc that you've created of Epiphany and along the way there's some new issues that came up. Can you talk about the Microsoft issue, being sued by Microsoft?

Blank: Oh, we weren't sued. You mean over the letter "E"?

Hancock: Well, the letter "E" and the issues that came up over letter "E" and the little--

Blank: And the swoosh?

Hancock: And the swoosh.

Blank: we had created a logo that looked a lot like the Internet Explorer, and we had done it first, and the name of the company was Epiphany. "E" how hard is that, and so we got a cease and desist from Microsoft legal that said essentially, "We own the letter "E" and -- I wrote a letter to Bill Gates and I don't know if I ever sent it or maybe calmer heads intervened that said, "Gee, there's some other letters and symbols you should probably go for as well - maybe the dollar sign, or your initials or something else. But I think the letter "E" is in the public domain, and somehow it just disappeared. But I thought that was hysterical. I just thought it was funny. I thought you were going to ask me about the other Microsoft story, which was--

Hancock: Well, that's coming next, but go ahead.

Blank: So, one of the things I did at Epiphany which I didn't do in other companies, because I wasn't smart enough and "listened to my board" was at Epiphany we got a ton of advisors, and I thought of them as chess pieces. After learning what I learned, you never want to get an advisor when you need them. You need them as resources that you could play as needed. And my rule for our advisory board is, you were going to respond to a phone call within 24 hours. That was it. I'll give you some stock. I may never call you, and I must have had 40 people on the advisory board.

I probably never called 10 of them, but there are others that, gee, you used them and then you started using them more. I'll give you more stock if you're coming in and training-- working with Ben and teaching database marketing. Jeff Ullman came in and did exactly that, taught about database architectures to the engineers, and so we got more stock to his advisors. But Gordon Bell, who had been my mentor, was now at Microsoft, and Gordon was an advisor. And I didn't know what or why, but somehow, I figured someday I was going to need to go and get to Microsoft at a high level.

And I discovered that Microsoft had an RFP, a request for proposal, out for a system that looked just like ours. They were using some mainframe for database marketing for their giant mail list, and for customers and for resellers, and they were going to move it in-house, except the system they picked was actually going to use Oracle's database. I assumed it was some sweetheart deal that they just never told the rest

of their company that that's what they were going to do. So, I tried to insert myself even though the RFP was clearly written for a vendor. There's got to be a rule of thumb that if you haven't helped write the RFP, by helped I mean assisted in creating the spec, it's not written for you, and you're probably going to lose it. But this was like a $12 million deal, and I said, "It's written for us even though it's not written for us, and so I called up the guy who was responsible for the selection and the process, and he said-- and this is the wrong thing in my whole career to do to me, because when you do that, it just incensed me even more. He said, "Don't worry your little head. You're never going to get this deal. It's not written for you." <laughs>

That was a mistake. So, I called up Gordon. I said, "Gordon, can you let Bill Gates know that one of his key pieces of software is about to be run on an Oracle system, and that they won't even let us bid Microsoft's SQL server." In less than an hour, I got a phone call back from oh, I'm blanking his name, not Bill, but the head of sales and marketing of Microsoft. that said, "You're now in the bidding process. Come up on Monday and present your system to us." To make a long story short, we won. We won, and the guy who told me, "don't even bother" was no longer at Microsoft.

It was a great story, but it was a relentless story. What you did as an entrepreneur is that, I say it a million times, but "no" to an entrepreneur is just the beginning of a conversation. "No" to normal people is like, "Thank you, I understand the social cue. I will leave." "No?" What exactly did you mean by no?" "No, I meant "no." It's a bounding box that means no. Not to me. At least, when I was a rapacious and relentless entrepreneur, it was just the start. Was that your question?

Hancock: That was my question. I did want to hear that story, also. So, you had early customers as well, and started to work, as I understand-- Is this correct, incorporated your business model hypothesis for customer discovery-- Is that around the time that you really developed that? Can you talk about that?

Blank: So if you think about some of the history we've been talking about, getting out of the building started in full fledge at SuperMac, got beaten into me earlier at Ardent, So I had been practicing some of this stuff, but this notion of finding product market fit, agile engineering, which we still weren't doing but were finding our way into. Well, why does engineering only want customer feedback early in the process? Well, they were doing waterfall, and once they got into the spec it was really hard to change, etcetera.

My best Epiphany story [involved] getting out of the building with Ben was about Schwab. One of our advisors was Mary Kelly, who was head of database marketing at Schwab, and for my advisors who were in corporate positions, I was pretty up front with them. I would say, "I want you to buy a million dollars' worth of my software," and all of them were adult enough to say, "Steve, you can't pay us to--," and I said, "No, no, no. You don't understand. I want you to teach me how to build a system that you will feel good enough to buy for a million dollars," "Oh," and that's always the beginning of a good relationship, and that's exactly why I did want them. It wasn't like I was going to give them stock to pay them off, but I did want them to tell me honestly why we were screwed and why we won't get an order, and Mary Kelly was perfect. She was the perfect customer. "No, no, no, no." And finally about the fifth time I got, nicely thrown out of her office. She said, "You don't understand, Steve. Your architecture just doesn't support householding." In hindsight, that was embarrassing. Householding is a simple technique, is that if you

live in a house and your wife has a different last name, we still shouldn't be sending you two of the same offers physically or virtually, nowadays virtually, to the same address-- We ought to know that it's a household. Our architecture didn't even allow any possible way to do this. It wasn't some add-on marketing thing I could talk my way around. It was just missing, -- and Mary was nice enough to educate me, "Steve, if it's missing for me, it's going to maybe be missing for every customer you need to talk to."

So, this where getting out of the building and the relationship with Ben that we had set up was great. Ben got in the car and we drove to San Francisco. He listened to Mary explain the same thing, this time in more technical detail, and Ben asked four or five questions and okay, we leave. I knew Ben, don't ask anything, just drive the car back, and we passed the airport and we're talking about lots of things. We pass the Palo Alto, we passed …-- Now, we're about to get off at Mountain View and I know, okay, he's just holding out on me. I said, "Ben, what are we going to do about Schwab?" He said, "Well, what do you mean," and I said, "What do you mean, what do I mean?" We just went through this whole thing. with Schwab - what about householding?" and he said, "Well, show them page six of the spec." I said, "Ben, the spec only has five pages, and he said, "Not anymore."

And so this relationship of both getting out of the building, being agile, teaming up with your engineering counterpart meant that you weren't going into engineering meetings pounding the table about feature requests. You were not only listening to customers, you were bringing the people who could actually make those changes [to] hear the same data, and then come to the logical conclusion that yes, we were missing it. Instead of me having to convince engineering, Ben went into the next engineering planning meeting, and the feature was scheduled, and Mary Kelly, good to her word, when we could not just say we could deliver, but when we could demo the product, Schwab became a customer, and it became right next to Microsoft, the huge logo on our IPO offering.

Hancock: Well, that sense of those partnerships really started to ripple through, and it was at one point, recognized as a very, very fast-growing company. Huge, right?

Blank: Huge. It was zero to a hundred million bucks in revenue in three years.

Hancock: In three years.

Blank: You know, a good part of that was understanding customers. A good part of it was Siboni, coming in and understanding enterprise customers. When I first met John McCaskey he was thinking, oh, maybe we'd get five thousand dollars for this product, and I just felt like a genius. I said, "John, you don't understand. We could get fifty thousand dollars for this product." And then we hired our first VP of sales, before Joe DiNucci, Jay Larson, who had some enterprise experience-- He was actually a great Oracle salesman. He said, "Steve, you don't understand. Oracle doesn't sell anything for less than a half a million dollars," and when Siboni came in, it moved to five million dollars.

Now, the same product, three years earlier that John McCaskey thought was five thousand dollars, I thought was fifty, Jay thought was five hundred, it was the same software, and lots of interesting stories in between. Jay Larson actually helped me understand how to turn a customer development process into

actually finding a repeatable and scalable sales process, and that was an incredible education. That was the beginning of understanding the distinction between search versus execution. We hired Jay probably 18 months too early. Jay came from an environment like Oracle where there were known products, known data sheets, known customers, known sales processes, known whatever, and so we were using a sales deck and it wasn't working. I remember trying to pitch to the head of IT and getting thrown out, and the next thing we know we're finding ourselves in the parking lot just fumbling for keys in a pouring rain, and it was terrible. We get in the car and Jay's about to drive us to the next account, and I go, "Jay, where we going?" and he goes, you know, "Steve, salesmen have tough skins and we're going to make the next call." I said, "No, no. We need to re-write the presentation. It obviously didn't work," and Jay starts, "You can't do that. I memorized this pitch."

And that's when I realized there was a distinction between searching for a business model and executing one. It is that what we were discovering was that we needed to search and what world class, most world-class salespeople or certainly sales executives are comfortable with, was execution, and that was the beginning of some of the understanding of the key tenets of lean.

Hancock: Before-- I would like to focus on that next, but before we do, let's talk about how you ended at Epiphany in a very unusual way.

Blank: Which part of the multiple unusual way?

Hancock: Well, I know several. For sure, talk about the day that you chose to retire, the day before the IPO.

Blank: Yeah, it was a long, drawn out conversation. When Roger Siboni came over, he characterized Ben as the crazy aunt you hide in the attic when the guests come. And again, it was-- people just misunderstanding hugely this guy's value, and it's usually people who didn't have to build things or people who had never been in the early stages of a startup. The company wouldn't have been there without Ben, and it suffered after, and so he wanted to get rid of Ben.

But since Ben and I had already decided that we were going to hire a CEO on day one, we realized that we might lose our stock if we're not careful, and being a venture capitalist, Ben had actually figured out how we could keep our stock forever. That is, having a golden parachute. And because we had worked with a series A investor and liked us and had other issues they wanted from us, they allowed us to actually put our golden parachute not in any series document, but it was written into the state incorporation papers. And of course, when our second round VCs, Kleiner Perkins reviewed all the documents, we made sure we mentioned, "Please make sure you review the state incorporation documents." Okay, we had it in writing that we told them that there was stuff they needed to review. And when Roger tried to fire Ben, we laughed, because I remember saying, "Roger, you can't fire Ben. You could move him out of the company, but he gets all his stock," and he said, "I'll get back to you on that," and three weeks later he comes back and he said, "Yep," and so Ben left with all his stock and they wanted me to stay and do the IPO roadshow, and I said, "No, I'm not going to do that." I said, "I'm leaving. You got rid of Ben, I'm going." We argued all the way. They did the roadshow without me and I

retired the day before the Section 16(b) went effective, meaning the day before it went public. And then the bubble collapsed about six months later.

Hancock: So before we leave Epiphany is there anything else that you to add--

Blank: It was a great company, world-class people, great run in a bubble, a very different time, very different liquidity events, I learned a good chunk of the blocking and tackling of what would become the lean startup later, though I didn't know it. And even about the people-- I guess there were two big learnings.

One is, I finally was able to articulate the key differences in a founding team. (And if you didn't have the right team, it was going to be a struggle.) And the right team, for example, was Ben as the innovator, but I was the entrepreneur, and we appreciated each other's skills. McCaskey and Greg were different--, they were kind of hybrids in different ways. But Ben and I epitomized those two distinctions [innovator versus entrepreneur.] I could never do Ben's job, and in a pinch, he might have been able to do mine, but he wasn't as crazy as I was. And I have taken that [innovator versus entrepreneur] as a foundation elsewhere, watching teams get formed.

The other one was watching Roger, and the difference between us, as I said earlier, was search versus execution. They're very different skillsets, and for Roger, and I'd say it for me as well, I didn't quite appreciate the skillsets of a world-class executor; and trust me, he definitely did not appreciate the skillsets of a world-class entrepreneur. Yet those Venn diagrams also need to co-exist in a company. And certainly as one grows, and it's that culture clash that happens as companies scale - the differences between search and execution. And when those roles switch, that actually screws up growing companies.

That was Epiphany. Great run.

Hancock: That was Epiphany. Great run, September 1999 you retired.

Blank: Yes.

Hancock: You're only 45. You have a big exit. By the way, was the valuation was north of $300 million. What was the--

Blank: No, no, no. Valuation was north of $8 billion by February of 2000.

Hancock: Wait I'm--

Blank: On the secondary… It got acquired for piece parts. What I'd call it, about three or four years later for three or four hundred million dollars, but during the peak of the bubble, huge. Stock was like, 180 or something.

Hancock: So, you could choose what to do next, and so lead us into the lean startup.

Blank: Yeah, so everybody expected me to do startup nine, and even me, kind of.

Hancock: Yeah, did you think about that, or becoming a VC, or just an angel investor, or a--

Blank: Well, I went through the typical phases of angel investing. As you retire, I've discovered few people know exactly what they're going to do, particularly when you're healthy and young. But there's a test I used at Epiphany and other places. I would call people up in New York and say, "I'm going to be across the street tomorrow at a meeting. Do you have 10 minutes for a coffee?" If they would say yes, I would jump on a redeye for that meeting. Big idea. I would do that to get a meeting for 15 minutes if I thought it would move my company forward. After Epiphany I ran that test, and said, "I'm too rich, and I'm too old, and I like my kids too much." I realized that that was a killer if I was competing with someone like I used to be, and that would be unfair to the company. I would be like Alan Michaels at Ardent, sitting in the building. Does that make sense?

Hancock: It does.

Blank: And so that was a very quick heuristic sort of test. So I started thinking about what I wanted to do. I bought a house next to mine and set it up as an office, which was a big mistake. Because when I would meet people, I'd have to make coffee, have to go out and get pastries, and then have to turn on the heat. I should have just like-- I still have the house, but it was like, what was I thinking?

So I started thinking about startup nine, I meet Scott Andrews who headed up Nissan's R&D division in Silicon Valley. And he found some young guy named JB Straubel, and we started talking to him about building these things called electric cars. And we start this idea called Flux Capacitor, which is the name of the startup, and JB is sketching these ideas of hybrids and electric cars and he's driving around Palo Alto in his Porsche 944, trailing a lead acid battery pack behind it -- his own conversion. And six weeks into it I think, I'm doing this test, can I fly around the country, and I go, "JB, this is going to take ten years and $50 million." I was off by at least two orders of magnitude in both capital and now I think Elon got it down to 20 years. But thank God, and JB was mad at me, he wouldn't talk to me, and he was right, of course. And as I'm sure your viewers and readers know, JB Straubel became the co-founder of Tesla and literally in 2019 finally just retired after 20 years at building the architectures for all the battery and platforms for the Tesla cars. But that was my only half-hearted attempt at startup number nine. It would have been a great startup. But in fact J.B. ended up teaming with essentially a Steve Blank with Martin Eberhard, and Elon became the first investor and then booted Eberhard out, and that was my Tesla experience. But if anybody wants them, I still have the first J.B. Straubel slides on what eventually became Tesla.

So, here I was, noodling on this, but I was also thinking about my history. So here I am, I had done 21 years, maybe if I count Ann Arbor, 22 years, 23 years of startups. Eight or nine of them, different industries, different technologies. I was now sitting on public boards as well, private boards, doing tech investing, and I had been no different than any other startup CEO or employee. When you're engaged in a startup, your head is down, and you are executing. If you're looking around, your boresight is maybe your competitors, maybe if you're smart your industry, but you don't have time for big thoughts. You're

not a thought leader, which is why the industry is full of practitioners, not researchers, because survival depends on execution.

And now for the first time I had the ability to think, and think about what I had done, and so the first thought was that the world really needed my memoirs. In hindsight it was really just a catharsis of being able to get out what I wanted to write. I think I talked about this earlier in one of the histories we did, but basically as I started writing them a couple things came up. I would summarize every company I did with lessons learned. And after I got through those lessons learned, I still remember, out skiing, page 80. The lessons learned were really filling in a much bigger pattern.

And the couple of patterns, which now seem obvious was number one, startups were not smaller versions of large companies. Everybody in the Valley understands that, but when I said it in 2000 it was heretical. It was like, "Steve, what are you talking about?" It was like, "What else is there?" Well, back then startups did everything large companies did. Large companies wrote business plans. Why of course a startup would write a plan. A large company would do a five-year forecast. Well of course a startup was supposed to predict the future in five years. Even though everybody, including the investors, knew that was ridiculous. Large companies hired heads of sales and marketing and CEOs and biz dev, and they used waterfall engineering to assume that everything you wrote down as a feature was exactly what customers were going to need at the end. Well startups were supposed to do the same.

Those were all assumptions, and I felt that was wrong. That wasn't my experience. That startups were actually something different. Startups were searching for now what we call business models, where companies were executing them. And here was what was important. We had no formal tools or methodologies to describe, even if I was right, what is it you should do. So I decided to take this on myself. And as I was forming these ideas I got invited to guest teach at Berkeley by somebody I still work with named Jerry Engel, who ran the Lester Center for Entrepreneurship inside the Haas Business School at UC Berkeley. (Jerry still tells me we had met earlier, I didn't remember,) but he said, "Oh yeah. You tell great stories, and why don't you come and tell some stories in some of our classes?" And so I started telling stories. But what Jerry didn't know, and no way he would have, is that my career started as an instructor, and I remembered I liked teaching, and so I started guest teaching in some classes at the--

Hancock: This was early 2000s, 2002 or so?

Blank: Yeah, it was 2001 and '02, but at the same time I was working on a book that would become the foundation of The Lean Startup, which is called "The Four Steps to the Epiphany."

"The Four Steps to the Epiphany" was essentially about one of the three components of Lean. The three components are "get out of the building", and there's a methodology called customer development. Two is "agile engineering", which is how to build products rapidly and iteratively and incrementally. Then three is a business model, "Business Model Canvas" from Alexander Osterwalder to map your hypotheses. But back early on was just trying to formalize the get out of the building.

Alright. You're out of the building. "Should I be standing in the parking lot? What do I say? What do I do? What am I looking for?" It eventually became this idea, in fact, Marc Andreessen labeled called Product/Market Fit." What you're looking for is, "Glad you have these hypotheses, but inside the building you were just guessing. So why don't we actually see if we could match up the customer needs to what you think you're building?" So, I remember taking a computer, a printer, and lots of paper to a vacation spot we would go in Hawaii--

Hancock: So you brought it all with you?

Blank: And I would ship a box of books, and my wife and kids remember me sitting by in a place no longer around called Kona Village on the Big Island. We spent, I don't know, a month every year there, and I would get a good chunk of writing, and that book took me about two or three years to write. In hindsight, as I said, you could describe the idea in about 30 seconds and three minutes if you're slow, but it took several years because there was no context at all. I read all of the literature that existed about corporate innovation and entrepreneurship at the time. All of it. And all of it was fundamentally how do you innovate inside a large corporation. The only books out there was -- there was one by Bill Davidow. "Crossing the Chasm" was in the future. Not much literature at all about innovation in early-stage ventures, and so what I realized is I was creating a category, and it took a while.

Hancock: Well, for good reason.

Blank: Yeah, well someone much smarter might have done it faster. Then, I convinced Jerry Engel to allow me to teach this as a class at Haas. So this was the first customer development class, which wasn't experiential, it was based on cases, but it was me reinterpreting HBR cases. These were typically, "Sally is sitting around the table thinking about the problem," or "Dave took a walk around the lake. " They were all, on the surface, execution problems, but I reinterpreted them as failure of customer development problems and so taught the class that way.

But still it didn't quite feel right, but in the meantime a company I had invested in, which was run by one of my ex-VP's of engineering, Will Harvey. He had a new young co-founder named Eric Ries, and Eric was going to be his VP of Engineering, and I said to Will, "You know, I've written you a bunch of checks in the past, [but] haven't made much money. I got this new idea of how to build a company. I'll write you another check if you take the class." So Will and Eric would drive up to Berkeley. Will would admit later, "I was muttering 'What a waste of time,' and Eric would be muttering 'What a great idea'."

So Eric Ries became the first implementer of customer development ever at Will and Eric's startup called IMVU. Since I was on the board, I got to watch them run these experiments, and Eric's major insight immediately was, "Steve, you invented customer development in a world of waterfall engineering, but no software engineer, at least in the Valley, is going to use that anymore. We're all doing "agile", and customer development is a perfect fit with agile engineering. So Eric's contribution was agile. Then a couple years later Alexander Osterwalder came out with The Business Model Canvas and the Lean process became those three components.

But Eric became not only the first practitioner, he became the Johnny Appleseed of the movement, meaning while I wrote the theory, he proselytized the practice and still does today in a way that it became obvious that it should just happen. That's the Lean Startup.

Hancock: You've alluded to the students that you worked with, so many people who teach management…Just as venture capitalists or people talk about the founders that they've helped enable. As a teacher, as you started to move to teaching at Berkeley and Stanford, talk about your students, who are--

Blank: Oh, some of my students?

Hancock: Yeah, some of the students that you impacted.

Blank: Actually, let me start with the TA's. So, I was teaching at Berkeley, and Tom Byers at Stanford in the STVP program, the Stanford Technology and Ventures Program inside the engineering school, invited me to teach there at the same time I was teaching at Berkeley. And Tom, I don't know what he wanted me for, but he got a lot more than he asked for. I had to pay what I call penance, which meant teaching a lot of the existing classes. I created a new one for some of the Singaporean students fromvthe National University of Singapore that had a partnership with Stanford. But all the while I had in my head that we needed to do a different type of class that just didn't exist. Remember, I was teaching customer development at Berkeley, but it was still using case studies, and you had to write reports and--

Hancock: Very traditional.

Blank: Very traditional. And I was now getting a little more comfortable in academia at least as an adjunct. (I'll talk all about if we have time adjunct versus tenured faculty in a second,) But I was just honored; I was teaching at Berkeley now, now I'm being invited to teach at Stanford. How wonderful. But I realized that the capstone class in any business school, any university, for innovation and entrepreneurship was… how to write a business plan. Now five years after we've been talking about Lean or maybe 10 years even, it's still how to write a business plan. There are lots of variants on it, but it's how to write a pitch or how to do X and Y. Yet my whole philosophy was innovation entrepreneurship is experiential. It's about getting out of the building. It's about chaos and uncertainty and figuring out product/market fit. And we're teaching you how to make some slides and a five-year plan? What's wrong with this? Why are we behind?

And so, I decided that we needed to reset all our assumptions and that if I wanted to do a class, I wanted to do one that closely emulated what a startup in the 21st century was really like. Number one is that it was team-based. Number two, it was going to be based on getting out of the building, testing hypotheses that you've had on day one. Number three is it was going to require you to build minimum viable products. That is iterative and incremental prototypes that were derived from what you learned week to week. And that was just nontraditional.

So I pitched that to Tom Byers, and God bless him and Tina Seelig and Kathy Eisenhardt at Stanford. Why on Earth would they let me do that? I still to this day have no idea given my lack of credentials. They went, "Sure." "Okay," and so I did. I created a class, which was called The Lean Launchpad, and because it was so radical, and by radical I don't mean-- it wasn't clear it was genius or anything. It was just different. Nothing like this existed.

By then I had a blog, about a year old. I decided to blog every week of the class. Here's what I wanted to accomplish. Here are my slides. Here's what the students presented. Here's what I learned. Here's what worked. Here's what didn't. And even my friends said, "Steve, no one's going to read this. This is the most boring thing ever. You write about entrepreneurship. You write about... Now you're writing about education. What the hell do you know?"

And they were kind of right, and much like everything else in my life I ignored them. Because what I never would have expected-- remember I said earlier that part of my philosophy was stick out your thumb and see where life takes you. I never would have been able to compute or pre-compute that back in Washington, D.C., the head of commercialization of the National Science Foundation, Errol Arkilic, was reading my blogs, as he said, like they were a serialized novel. And the day the class ends and the blog is over I get a phone call, and I still remember, I was driving on the Stanford campus. "Hi, you don't know me. I'm from the U.S. government, and we need your help."

And Errol and I still laugh about my response, which was this was just in the middle of what was called the surge in Iraq, and I was thinking maybe somebody was calling me back for my government help, and I blurted out, "I already gave the government my help during Vietnam. I'm not giving anymore." (Little did I know about that I would do that later in my career,) but Errol and I still laugh. He said, "No, no, no. I'm from the National Science Foundation." Later he said, "I should have hung up when you said the next thing," which I said, "What's the National Science Foundation?" Of course, I know now it is basically one of the key national research funding agencies in the United States, NIH $35 billion a year, NSF about $8 billion. NSF funds all basic science research except for life sciences and universities.

The NSF had this problem that the U.S. government had started something called the SBIR program, which was a way to fund anybody who wanted to commercialize science. It's been going on for 30 years, and it was not producing results commensurate with its money, which means if Congress had ever asked how well they're doing, they'd all be in jail. Errol realized they needed something different and so did the leadership at the NSF. Long story short, as Errol tells the story, (and he's written up something that the museum should probably have, which is a great history of the program.) He adopted my class and said, "Help us turn it into a national program," and so the NSF adopted the Stanford Lean Launchpad class and now called it I-Corps for the Innovation Corps.

Me, my TA of the class Stephanie Glass, and two VC's, Jon Feiber and Ann Miura-Ko, who we'll talk about in a second, taught the first class of 75 students, 25 teams, and the NSF thought it was the best thing that ever happened to these teams. We got them to do things in weeks that their program managers were saying, "I've been trying to do this with them for years," and so we trained them. We put together an educator class. I wrote a 200-page training manual. I trained the first trainers. Fast forward

five, six years later, now it's nine years, we've put over 1500, maybe close to 2000 teams of the country's best scientists and engineers, over 5000 people. I-Corps, now some variant of it, is in 98 colleges and universities in the United States. It's written into law. Something that survives 10 years at the NSF, I think, is considered a win. And then the White House under the Obama administration, the Office of Science, Technology, and Policy had a head of innovation and entrepreneurship named Tom Kalil, who got engaged, and Tom looked at the program and said, "Why isn't every federal research agency doing this?" and so the Department of Energy, NIH, and others all adopted some variant of the I-Corps program including the Department of Defense, and we'll talk about some of that later. There's an officially acknowledged I-Corps at the NSA, which has put more people through the program than the commercial versions.

But back to your question. My co-instructor in that class was a woman named Ann Miura-Ko, and I introduced Ann to a young VC who I knew named Mike Maples, and I said, "You two would be the yin and yang to each other," and they were. They ended up starting a firm together called Floodgate, and some of my other TA's, Stephanie Zhan went to Sequoia. Anna Khan is at Bessemer, and for some reason they're all women who became VC's.

Hancock: Well, Stephanie Zhan was on our NextGen board, and Ann has spoken, and in fact her one word, thunder lizard, is up there, and her conversation that we had on our live programs is actually going to be aired by KQED. That's the next time, so...

Blank: Oh, that's great. Yeah, so Ann has turned into a killer VC, but she was there at the beginning and participated nightly in the beginning of that whole movement. She was there on day one, and obviously as a practitioner has seen it evolve in ways I couldn't even imagine.

Some of the fun student stories were in the Launchpad class. There was a set of students who wanted to build an autonomous lawnmower. It was the early days of computer vision, and they were great computer scientists, and they thought, "What a great thing if we can make something that will look like the Mars Lander Surveyor, that big, and it would mow lawns and golf courses. Even coming in the class I knew, "No, I'm getting these guys out of the building. " And very quickly as they got out of the building and they were passionate about this, they were building hardware for vision, but they were also realizing that, "No, having somebody making minimum wage is usually who's riding those lawnmowers, and a quarter million dollar machine versus a thousand dollars [is not a business.]" And this is what the class was great about because you could have lectured that to them, but them feeling failure in the face... And the only thing we do in the class is sometimes steer the students but not tell them, and we suggested, "Perhaps you ought to look at agriculture in California." They had no idea there was agriculture in California. Stanford.

Okay. Drive 90 miles east and you'll hit agriculture. We gave them a little more direction, and of course they came back and very quickly discovered that, "Gee, computer vision. Weed versus crops. Hand weeding for organic stuff is really expensive. Gee, if we could make a device that could actually recognize weeds versus crops and figure out how to kill the weeds, maybe we'll have something." Making a long story short, they spoke to 100 to 150 customers, literally built a minimum viable product of a

machine-vision weeding identification machine, hand pushed it through farm fields, and were able to prove that they could do what they said they could do.

Then fast forward four years after the class, they got acquired by John Deere for $300 million, and Jorge Heraud is now the head of AI projects at John Deere.

Another version was a student team… when we finally did the Stanford class, I took it back up to Berkeley and was now teaching the same Lean Launchpad class at Berkeley. And there was someone named Jon Sebastiani who wanted to build a beef jerky company. Beef jerky, like they get that in gas stations. It's not a tech company. I don't even know if this process will work in non-tech but okay, let's try it. Got out of the building. Same thing, and "You got to talk to ten customers a week," and he's pivoting and learning all about channel and branding, and week seven-- you're supposed to come in every week with 10 customer visits, and your presentation to the teaching team is what you learned, and Jon says, "Steve, I only spoke to one customer this week."

Now, everybody knows if you've done that, you're told, "Sit down. You don't deserve to present," and Jon goes, "No, no, no. You really want to see my one slide." I said, "You spoke to one customer and you got one slide? You don't get to pre--." "Steve, you re-." And I went finally, "Well, he wants to show us something. Alright. I'll make an example out of him." And he puts up one slide. It's a check for $475,000 from Safeway.

Hancock: Touché.

Blank: Touché. Jon Sebastiani and the company was called Krave Jerky. So Krave became a pretty big brand. He got acquired after two, three years for a quarter of a billion dollars from Hershey's and now runs his own startup incubator for food brands up in Sonoma. So those were some fun students.

Though to be fair, it's only this year that some of the new teaching team at Stanford started tracking the alumni. By design, at the time when I started the class, I did not want it to be an incubator. Now Stanford has StartX and some other things. Berkeley has SkyDeck, but back then an incubator inside of an academic curriculum I thought would create too much havoc among the tenured faculty. Now you can get away with it, and maybe I should start another version, but I really focused the class on teaching the methodology of Lean rather than on teaching you how to get funded and incorporated and how to raise money. I thought there'd be other classes for that. I wanted them to painfully remember what it's like when a customer goes, "No, you got it completely wrong."

What was your question?

Hancock: Well, we're just finishing with the students, and so we talked about some of your students and some of your RA's. How about some of the impact that you've seen through the government programs?

Blank: Oh, boy. Which programs and which...?

Hancock: Well, you described just briefly I-Corps, NSF. I think we're trying to understand behind the story, not only what happened but the so what of it.

Blank: Yeah, so what happened with Lean is my work, Eric Ries' work, Osterwalder's work… Basically in the last decade or two we changed the language of Silicon Valley, right? If anybody here talks about waterfall engineering, you kind of go, <laughs> "Maybe they know something that we don't, but hello, it's the 21st century, it's called…." So now we're way past that. People now know we move with speed. There's some process you use, the tools and technology are way past what I'm doing.

But not in the government, not even in large companies, so what's really interesting is watching-- in 2015 maybe 2013, the Harvard Business Review put on the cover, "Why the Lean Startup Changes Everything." It was an article I wrote, but it gave large companies permission to now for the first time look at startup tools.

Because they were waking up to notice that startups are starting to take some of their business. And just as a sidebar by the way, and I haven't heard it articulated like this, but companies still have not woken up to that competition with startups is not competition with startups. It's nowadays competition with an unequal economic system. That is, large companies compete in a capitalist system that's measured by profit and loss and shareholder value, etc. But startups are not measured by that at all. They're in fact a very different economic system, as different as socialism and communism is for capitalism. They're in a subsidized capitalist system where profit and loss have no meaning, at least if you're unicorns and you're driving for liquidity and you have growth capital.

That's a very different economic system, and it's that interface that are actually confusing both the large companies and startups. The government faces the same problem. We're organized, at least in the Department of Defense, to deal with counterterrorism for the last 20 years, and now we're waking up thinking we're competing with potential peer adversaries with China and Russia. But we're not. We're competing with China and Russia, who have very different systems, who have fused their military, commercial, and academic systems much like the U.S. did in the 1950s. And we're now trying to figure out, "How do we match that?" and so the issues are even a little more complex than simple competition.

And so about five years ago I started getting involved with helping large companies think about innovation and entrepreneurship and also started thinking about governments thinking about innovation and entrepreneurship, and for the government side--

Hancock: Can I just interject--that both organizations are notorious for being slow-moving, hierarchical and all these other things that are in many circles considered antithetical, so these are maybe an undeserved caricature but not any easy area to work in.

Blank: No, but the caricature actually describes something else. It's a caricature only because, and remember when I talked about on a personal level Roger Siboni didn't understand startups, and I certainly didn't understand at the time the world he came from. Large companies get large and are capable of managing and scaling because they build processes and procedures and OKRs and KPIs, that

is metrics to manage repeatable and scalable processes at scale, thousands, tens of thousands, hundreds of thousands of people. So you build process that actually works in a normal time that are repeatable. It's only when something outside perturbs the system, that is your competition that are not peers moving at the same clock speed, or technology has shifted. That is, it's a very adaptable system within the system it's working. Does that make sense?

Hancock: It does. It does. Thank you for that.

Blank: And so from the outside it looks lethargic. It has 100,000 people. They pay the checks. They make the money, etc. It's in fact when the deregulation happens or a crisis happens or oil shocks or something else or new technology, unless they've built a way to capture and rapidly sense and respond and adapt to changing environments, unless they've build that into their DNA, they typically fail rapidly.

And if you think about it, most companies let that skill set atrophy over time. Does that help?

And in fact my next book will be on that process about how to keep that going in something called an innovation doctrine, that surviving companies actually do. It's what Amazon, Apple under Jobs, the Koch brothers, Ray Dalio at Bridgewater, all have innovation doctrines. Though right now they're kind of articulated as words of wisdoms - from 14 points from Amazon, to Ray Dalio's philosophy, or you had to go through the Koch brothers' market-based management school. But they all were doctrines of shared beliefs, processes and tools and techniques.

But back to the government part. About four years ago, and that is about 2015, I ran into someone named Pete Newell, who used to run the Army's Rapid Equipping Force, and the Rapid Equipping Force was essentially during the Iraq and Afghanistan wars the Army's rapid innovation arm. Believe it or not the Army had realized that they didn't have 15 years to provide solutions to problems they hadn't seen in decades, out to the battlefield or people were going to keep dying. Whether these were counter-improvised explosive devices or how to provide water and power on foreign operating bases. They needed non-off-the-shelf stuff. And so in 2003 they set up the first group, and the leadership of this group, because of the way Army rotates teams, changed every three years. Pete Newell, I think, took it over in about 2012, and I met Pete because in my regular Stanford Launchpad class there was a Special Forces operator who said, "Hey, what you're teaching sounds a lot like what Pete Newell did on the battlefield."

Hancock: I wonder if we could talk about your Hacking for Defense.

Blank: Right, that is when I met Pete Newell.

Hancock: So that's why I think that's really the next step, to talk about Pete Newell and--

Blank: Joe Felter.

Hancock: Right. Your Hacking at CISAC and maybe your first class.

Blank: So, part of my interest obviously since my career started in the military, I had a view that when we ended the draft during the Vietnam War, at least in this country, we disconnected the body politic from having any skin in the game of foreign policy. Which is why in the 20th century we engaged in perpetual war. It was all volunteers, and it didn't touch much of the elite. Because if you were in the coastal elites your kids went to college and went on with their careers, and the military wasn't part of your history or your family. We ended up bifurcating the country in a way that I don't think was healthy. And so I always had believed that we should have some form of permanent national service. I don't mean, unlike some countries, permanent military service. But at least for me, whether I had gone into the military, or if there was any other form of service where if I had been an 18-year-old who had to give a year to work with other people from other parts of the country seeing things I didn't know, I think it would have not only made me a better person. It would have been great for our country.

So I've constantly had this idea that the U.S. should engage again in national service. It still seems to be a third rail among the politicians, but I don't think for the body politic. In fact, the day after 9/11 on 9/12 if George Bush would have said "national service" versus "go shopping," I think we would have seen a very different country because we all would have said, "Well, obviously." And a lot of people just volunteered anyway. The people I meet today, a good number of their careers started right after 9/11. So in any case, that was one of the impetuses.

When I met Pete Newell, we both thought we were going to have a meet-and-greet five minutes. One student suggested we both meet, and Pete described what he called his problem curation process, used on the battlefield. And I described Lean, which is essentially used in the boardroom. And we realized we invented almost the same process. Though his, rightly so, figured out how to deeply understand whether the problem you're getting is a real problem or a symptom of a problem. Because you had to prioritize the stack of things you were going to work on, and "Is this really the problem or is this a much deeper symptom of a problem. Or has somebody else has already solved it? Or it's just a communications problem, etc?" And then how to rapidly get solutions out to the field,

Whereas I had assumed you're coming in with a known problem, and the Lean methodology was not about creativity or problem curation. It was, "Let's go find product/market fit." And what [Pete and I] discovered is if we connected our two pieces together we had what we called an innovation pipeline. And we both had the same interests along with another founder of his company called BMNT was someone named Joe Felter, an ex-Special Forces colonel who was now teaching at CISAC, and Joe went off to be the Assistant Secretary of Defense in Southeast Asia from 2017 to 2019. He's at least as of today in 2019 back at Stanford, back at CISAC.

Hancock: And for our audience, we'll just say that CISAC is the Center for International Security, right?

Blank: At Stanford.

Hancock: And Cooperation.

Blank: So the public policy strategy arm that the Hoover institute, the Freeman Spogli Institute as well, that core of that part of Stanford.

And the three of us started thinking about, "Could we adapt and adopt a Lean Launchpad/I-Corps class where people were coming in with their problems?" And actually to use the same methodology but go out to the Department of Defense and other government agencies and say, "Give us your toughest problems, and we'll get students to work on them."

At the same time I was talking to Pete, it dawned on us that the State Department had the same problems, and Tony Blinken at the State Department and, oh, I'm blanking on his tech rep out here [Zvika Krieger], in Silicon Valley came to us with the same idea. And so that same year at Stanford in 2016, we stood up two classes, Hacking for Defense with the Department of Defense, and Hacking for Diplomacy with the State Department. And we had students who were obviously some very interested in solving refugee problems and some interested in solving improvised explosive device problems. And it was just a hit. Very different students than the Lean Launchpad and I-Corps classes but exact same methodology. Get out of the building, minimum viable products, visit 10 customers a week, etc. And interesting things came out of both.

Fast forward three or four years. Hacking for Defense has now been written into the National Defense Authorization Act. It's now like I-Corps, managed by a government agency that's called the National Security Innovation Network, which is part of Defense Innovation Unit here in Silicon Valley. Hacking for Diplomacy died when we fired the State Department essentially in 2017.

But other variants of "Hacking for …" continued. Columbia University stood up Hacking for Energy in partnership with the state of New York. UC Berkeley has done two versions of the class, Hacking for Nonprofits and then Hacking for Local, with the first case being the city of Oakland. There's going to be a Hacking for Oceans with Santa Cruz and Scripps. There's now versions in the UK. Duke has done Hacking for the Environment.

So there have been variants of the platform, which is simply use the Lean LaunchPad course methodology, but go out to sponsors -- not economic sponsors, but problem sponsors, and get problems as a series of domains. It actually has been a successful program.

Hancock: So, you share the curriculum, the model is that you share the curriculum and then the local faculty are teaching, or do you have any kind of training or other platform sharing?

Blank: So hacking for defense is taught in 30 universities. Of course the first thing we did is write an educator guide, much like I did for I-Corps. Though this time I had Pete's help and so Pete and I wrote another 250 page… Basically taking the I-Corps curriculum or my Lean LaunchPad educated class and reconfiguring it for DoD. And then held a train-the-trainer class.

And so, I have found that it's pretty easy to scale these things if you give them the manual, give them examples, hand them the slides, do the videos. So, I've done videos -- here are the basic tutorials. So it's

almost a class in a box that could be taught. It's not easy, but it's better than having to roll your own. I've been incredibly grateful that Stanford and Byers and Eisenhardt and Tina Seelig at STVP have allowed me to do that.

So, basically that group in Stanford now has two national programs that have reached over 100,000 students and thousands of educators. They have a whole set of wonderful instructors and do great research on the innovation and entrepreneurship of both corporate and startups. But the practical stuff they've developed is just kind of mind boggling. So it's nice to be in a place that punches above its weight and it's given me the opportunity to do that. I'm just blown away that I could do that there.

Hancock: Yeah, it's amazing, those are longtime friends, but for you to have from that very early experience to then apply it in so many domains, students and to have it scale is remarkable.

Blank: So I think we're done.

Hancock: I don't think so, I'm sorry, we are still-- next I wanted to talk with you about, hmm, I want to talk to you about your, "Secret history of Silicon Valley."

<laughter>

Blank: I think the answer now is I can neither confirm nor deny.

Hancock: You know, this is another, a topic that brings together your long interest military, the role of the military in Silicon Valley. You gave a lecture here at the museum and you have many versions that you've given. It's still one of the most watched videos here. Can you just summarize for this record, basically your argument that you make there?

Blank: Well it's not an argument, it's just an observation that most people believe the history of Silicon Valley is a commercial history. It started by the lore the museum in fact emphasizes, is that it started with Fairchild and Shockley, Shockley, Fairchild, silicon then computers and drives and peripherals and the whole commercial history.

Turns out the data says that's not true at all, the valley was actually built on a military industrial history from Fred Terman. That the valley was actually a microwave and defense valley and that laid the ground for the entrepreneurial community and the people and the university that actually enabled silicon and semiconductors and software and hardware to take root. That's I guess the core of as you would call it, the argument.

Hancock: So let's just step back and we've seen the valley create and recreate its leading edge through successive waves of technologies and we're on the cusp of several now. So many people come to you and search for the answer, you know, "What's the DNA of Silicon Valley? What's the secret sauce?" would you answer them differently today than you have in the past and how would you answer that question?

Blank: Well, the Valley has always attracted the outliers. One of the things that, I think most people figured this out now, but when you used to see people who wanted to create their own Silicon Valley, they neglected to understand that the Valley wasn't designed as a job creation engine for the people who lived here. An innovation cluster is a magnet for people outside. It's a big idea. And so the first thing is, what attracted people, the best and the brightest here?

Well, number one the weather, it was like, if you came from any other place in the country and you go to… I remember a company called Kendall Square was trying to recruit me to be their VP of Marketing in Boston in February. And I on purpose picked a restaurant outside to sit at in Palo Alto as they were trying to recruit me, and I happened to know there was a blizzard in Boston on that day. <laughs> I remember sitting out in 65 degree weather and I knew he knew what the weather was back home. We weren't even through the main course, when he said, "Not a chance, is there?" I said, "Not unless you're going to have me stay out here." So number one, the weather.

But number two, the intellectual capital that was already here in Stanford. Fred Terman had already built the engineering school, at least in microwaves and electronics, and to be the peer of probably MIT by the mid '50s. And three is that the culture... This was Annalee Saxenian's insight at Berkeley when she wrote "Regional Advantage" …that back in the '60s, '70s, even '80s, pre Internet no one knew what you were doing back home.

So if you grew up around Boston and you were working in a company, you'd probably go home and see your parents at least once a week or once a month. And mom or dad would say, "So how's your job?" and you go, "Just great." Because Dad had worked at his old job for 35 years before they gave him the watch. If you said, "I'm thinking of leaving," your parents would be hanging black crepe - over leaving our job - around the windows, "What are we going to tell the neighbors? What are we going to tell the relatives?" Because no one left their jobs. The cultural structure was you worked in the same place forever and your job was your life.

Here in the Valley people were changing jobs and still are changing jobs every 18 months to two years, that was the norm. But to try to tell people back home that that was going on, people were living different work lifestyles, they were going to San Francisco at the time to live different personal lifestyles. But it wasn't visible to your family back home. You could do anything out here. And that was a huge part of what turned Silicon Valley into a very different place than Boston, which was the other possible place for an entrepreneurial explosion in the mid '70s. It didn't take off in Boston because of the culture, not because of the smarts of the people or the lack of money, but because of the risk taking and the adventuresome people got up and left those other places and came here. I don't know if I answered your question.

Hancock: You did, and now many people are kind of questioning what's the path forward for the Valley. There's been a techlash and how we lost our soul and what about over investment and…

Blank: Yes to all. The good news that happened to the Valley was the Internet bubble, but the better news was the Internet crash. Because out of the rubble came a much more rigorous and more interesting

Valley until it got over invested in and turned toxic. And we're living through that over invested and toxic phase. Way more money than-- I mean it just feels like the Internet bubble on steroids although that when it crashes it won't have the same effect on the U.S. economy, because the only people who will lose are all the growth funds, not mom and dad in the public market.

But the toxicity is Facebook and Twitter and those are probably as bad as Standard Oil and anything else, I think rightly so. People are pointing out that these have had not only unintended consequences but severe social consequences for democracy itself and eventually it's going to come to a crash. It might look like-- Theranos might look like an afterthought compared to what's going to happen to Facebook and its leadership… in my opinion.

Hancock: If you had your crystal ball, not a crystal ball but you're somebody who deeply understands the underlying technology change, I'd like to return to that as well as the business and the broader socioeconomic forces that are driving change.

Blank: Well what's happened to the valley, besides the unending pool of capital which looks like a cornucopia to VCs and investors, the other piece which isn't so intuitively obvious is the destruction of any regulatory regime in the United States. This was bipartisan by both Democrats and Republicans for the last 20 or 30 years, which has been a rollback of all the regulatory bodies put in place in the 1930s or post the 1929 crash.

We used to be concerned, if we were a company, about the SEC. (The only people the SEC could seem to find is Elon Musk.) But no startup is concerned about the Securities and Exchange Commission. We used to be worried about advertising and the FTC. Anybody hear their name nowadays? The only regulatory body around is the FDA, but with Scott Gottlieb gone, it's not… He was actually an innovative and interesting last commissioner. Not sure what's going to happen there. So we've let any shades of regulation and oversight go.

And the part that people don't remember is we keep pointing to the visible faces of large corporations like we point to Zuckerberg, but no one can name his board. Or we point to entrepreneur X, but gee, what's really being said in that board meeting and yeah, we say it's dual class stock. But gee, VCs have managed to remove the head of Uber when things became egregious. So right now, the spotlight is not on board members, but their time's coming too.

And I think calling Google and Facebook a startup just does injustice to the word startup. These are large corporate, as big as any corporation in the United States, but that are completely unregulated and out of control and are damaging our country. I think Roger McNamee in his book, "Zucked", which if anybody's interested, if this doesn't get resolved before then, has done a good job of explaining a company out of control. And then people are going to regret I think in five years having that name on their resumes.

Hancock: Let's talk about the startups, you're still] now advisor, you're teaching entrepreneurs, but you're also an advisor and investor. What are the areas of technologies and startups you are most excited about looking at not only an investment side but impact?

Blank: It's a great question, if I knew that I'd be running a hedge fund, so I'm going to punt. But I'll say and I mean this just as an observation not as a criticism the museum itself, Computer History Museum misses half of the innovation in Silicon Valley. Because the other half is in the life sciences in therapeutics and devices and diagnostics and digital health. The sum of all those and those affect our lives probably as much or more than like what's the new app, or what's the new device or what's the whatever. Somebody is going to do that museum, or this museum is going to wake up and say, "Hey, maybe we ought to be the Technology History Museum, because there's a lot of interesting… We could have a whole 'another building! In fact a whole new set of funders for the museum if we were thinking about this history of CRISPR and Cart 9] and DNA and where's that stuff?

Hancock: And these intersect, right, Proteus, I mean there are all these companies that are…

Blank: No, but the key is they used to intersect. They don't anymore. They don't intersect for journalism, they don't intersect for VCs, they don't intersect anywhere in the Valley. When I was here, this is like the old guy talking again, almost every VC did hardware, software and life pharma, life sciences. It became so specialized that those groups saw no interest in continuing on together and now I'm hard pressed… Maybe you could count on a couple of fingers the number of serious VCs who have both. But not only did that bifurcate, so did the journalism. So when you read about the tech press, everybody thinks you're reading about Facebook and whatever, No one's reading about Proteus or whoever -- I think that's a mistake because as I said, I think the things that make our lives better are probably the things being done in the part that the public is not as familiar with, as the ones that they are. Does that make sense?

Hancock: It does.

Blank: And to be honest, I wish for the museum itself to maybe think a little broader about what a charter might be because you might be missing about 50 percent of the innovation and entrepreneurship going on in the Valley.

Hancock: Well we'll follow up and as I know Dan'l is going to be talking with you <inaudible>.

Blank: The thing that's really interesting is that the world used to follow Silicon Valley in the United States. That's no longer true. The Great Firewall, China's software wall that stops innovation from coming in and information from coming in, has forced them to rip off U.S. business models but build them and adapt them locally. And eventually, they're going to, much like Japan, start being creative, and they are starting creating things internally. But it's almost like two different universes. If you go to northwest Beijing, it feels like Silicon Valley, it used to feel like Silicon Valley in the '70s, now like Silicon Valley in the '90s, that is still rough, tumble.

But now there's second and third generation entrepreneurs. But different environment, different culture, different apps. It's just like being on another planet. They could see everything we have but we're not really exposed to their stuff, very interesting ecosystem. So it's clear to me that the clusters of innovation are now Northwest Beijing, Pearl River Valley, Silicon Valley, New York. I would have said London, but I

think Brexit is going to really damage some of that stuff, Herzliya, just north of Tel Aviv. Pick somewhere else in Europe and we're kind of out of clusters.

And then we would make a different list for life sciences, right? Boston, San Diego, I don't know where else but certainly somewhere in Switzerland. But there's not 100 clusters of innovation, there's maybe ten. And by ten, I mean innovation clusters where you could raise $100 million or more by not needing another tank of gas. Does that make sense?

Hancock: It does and it's intensely important for us as we think about what's happening, the path forward because the Valley already doesn't define what its work is by looking inside but every region needs to be by how they link and leverage because of flow of people, the flow of capital is now happening globally.

Blank: What happened in my lifetime as an entrepreneur is it used to be that innovation entrepreneurship only occurred in clusters. Now innovation entrepreneurship is everywhere. What's not everywhere is risk capital at scale. I mean almost in every city you can raise some form of angel funding but you're still limited between the capital and the mentorship and the pattern recognition, that that's the value in the cluster. In Silicon Valley the problem is that we've reached maximum housing prices. It's at a point where people can't afford to come here anymore, so -- it might be our own renforcing feedback loop that stops the Valley's innovative growth. It might take another quake or another crash to solve that problem, which it did in 2000 and did again in the turndown in 2008, when investment stopped, we'll see.

Hancock: We'll see. The Valley was last into the recession and first out in 2008 and we'll see. I'd like to turn now to your publications and some of your awards. You've talked about a few things along the way but I would like you to summarize your publications and the big ideas because as a body…

Blank: That's a lot of stuff.

Hancock: Well as a body they represent a summary of your writing, so if you don't mind just going back to and…

Blank: You mean what I've written or…

Hancock: What you've written -- and I mean your books, you have extensive blogs and other things but the things that you feel like were significant.

Blank: So, I wrote two and a half books. I wrote "The Four Steps to the Epiphany," which at least I'll take the claim that it helped kicked off the Lean Startup movement. And then I wrote, with Bob Dorf, my coauthor, a book called "The Startup Owner's Manual" which was a practical guide of, "Okay, we've now talked about theory, I'm teaching this class… how would you actually start either a hardware or software company? What would that look like?" And I think the book was a moment in its time for when that stuff was not intuitively obvious about, "What do I do?" and it's more of an encyclopedia than a read.

And then there was a collected series of some of the best blog posts of Steve called, "Not All Those Who Wander are Lost." And then, as you mentioned, I have a blog at SteveBlank.com and there must be 900 posts. I'm probably the only person who could remember all of them, I could go, "Well yes, I wrote about that in 1872, it's on page 43." And they fall into different categories of both startup culture, family, corporate entrepreneurship, government entrepreneurship, just a series of things-- "the Secret history of Silicon Valley."

Hancock: Do you have a favorite among all of them?

Blank: Yeah. I actually have two favorites, like every entrepreneur, whatever the answer is, I'm going to take more. <laughs> The first one is, (and I talked about this in the first part of our interview,) called "Epitaph for an Entrepreneur." To listeners or readers, it's worth looking that up. It was about this guy named Michael Krzys who affected my life – certainly as a public official.

So I was a public official for seven years in the State of California after I retired, and I wrote that one night coming back from a hearing. And the other one, I forgot what it was called, but it was the only blog post I wrote with my wife about how to have a family and be an entrepreneur. And I have to tell you, the proudest thing in my career as an entrepreneur but as an educator, in my whole last 30 some odd years is actually my family. If you ask me what my best product is, it's my kids. And I'll tell you a funny story is my wife and I when our youngest left home, went to college, we went, "Great, we can do whatever we want on Christmas, great, where are we going?" And when our kids heard about that they went ballistic, "What do you mean, holidays are with the family, vacations are with you guys."

Now they're almost 30 and that's still the case. And so you don't get your report card, I remind people with young kids, that until your kids leave. And the report card is where do they want to come back to. And I'll lay a good chunk of this on my wife, but one of the reasons I retired was I wanted to see my kids grow up. And they'll tell you they saw more of their dad than they ever wanted to see. But you don't get that memo.

When our oldest daughter was born, Gwen Bell, Gordon's wife came over and was holding Katie in her hands and said, "You know what your job is here?" And I said, "Change the diapers?" No. Gwen said, "Teach her how to leave." I went, "Teach her how to leave, I just got her, what do you mean?" And Gwen responded, "No, she's just going to be passing through." "And so, you need to teach her the set of lessons that she's going to need to know, but she's not yours forever."

And it turns out to be that.

And someone else said, when I was just a hard charging entrepreneur when the kids were young, he said, "Steve, what do you want on your tombstone? Is it, 'He never missed a meeting,' or, 'He was a great dad?'" Man, that really hit home. No one's going to put, "He never missed a meeting," but you really want people to remember, and the next generations to remember, about what kind of parent you are. And no boss is ever going to tell you that, and you don't get a memo on that, and you find out too late sometimes

in a marriage or life that you should have invested more in your family than you did in your company. And I got lucky and was able to find that out at least hopefully not too late.

Hancock: That was a perfect segue, I actually wanted to ask how you measure your life.

Blank: Yeah, I measure my life in…<pause> You know, you can't live vicariously through your kids because it's their life. And once they're gone, the good news is they call in for advice and I try to make sure it's my opinion, not like, "Go do this," and they know that. And it's nice that they ask for it, you know, some in business and they ask Mom for--, Alison is the one with the MBA from Stanford in our family, she has even more good business advice than I do. So that's one. And then two is I'm proud that I created two national programs that touched lots of people and I was part of a revolution in innovation methodology for startups in the Valley. And I'm also proud that honestly -- the other way -- that I got to be mentored by some people I consider just spectacular is still in hindsight, and still in awe that they paid attention. Yeah, I think it's been a great ride. And the other thing I'm most proud of and I had lots of adventures that I could look back and don't have to say coulda, shoulda, woulda, you know, I didn't miss a beat.

I wish I would have maybe treated people nicer when I was running over, through them, but not many about my career. It was a pretty long bucket list. Jumped out of an airplane, landed and got shot off a carrier, been in a war, been in jail. I mean you go down through the list, there's a pretty long list. It was a good life. Got to start companies, got to be on the cover of a magazine when the company was on fire. I mean it was like how good is that? Got to raise a great family. Got real lucky on a big IPO in the right time. Got to retire at the right time. And given where I started, who would have thought? But you stick out your thumb and it's been a great ride.

Hancock: It's really extraordinary, what a privilege for the museum to capture your story. As you think about-- you're not finished yet, the story is still…

Blank: Oh, I thought we were done, that was a great ending.

Hancock: No, I'm saying your life isn't finished yet and I just want to ask what are you passionate about now and what are you focused on now that you are devoting your time and your energy to?

Blank: So, Pete Newell and I, the guy who I did Hacking for Defense with, and still an intellectual sparring partner, and we're trying to solve some real problems in the government and by fallout in the large companies. We are trying to get our hands around why we could create these great innovation programs mid-tier, or even with corporate blessings, and yet the organizations themselves don't respond with agility and alacrity and speed. When it's pretty obvious that they're urgent things for them to deal with.

And while the country could afford to have Macy's go out of business, we can't afford to have the Department of Defense go out of business. But they're both being disrupted in the same way and, unfortunately, both with the same types of leadership who don't understand that the environment that

they've set up their organizational structure and their people and their culture are no longer relevant. And so rather than tell them, "You're bad, you don't get it," is there a methodology that we could develop to do that? We believe so, and so we're working on a book called "Innovation Doctrine" to do that, and hopefully will do for corporate and governments what Lean did for startups. We'll see, but hopefully in 2020 we'll be back here for more.

Hancock: My very last question, and thanks for your patience, because the museum is focused not only on preserving for the legacy but influencing generations to come, as you imagine a young innovator or entrepreneur who's looking to you for advice? Or maybe even your grandchildren someday looking at this, how would you sum up some words of advice?

Blank: One of the biggest mistakes, and opportunities, is thinking that founding a company or being part of an early stage company is a job. It's the world's worst job, it's a shitty job. You've got to clean the toilets, and unpack the boxes, and build the whatever, and raise the money, and have people quit, and customers and whatever. It's a terrible job. It's the world's best calling. This distinction between a job and a calling isn't clearly articulated enough, because founding a startup or being part of a startup team, it's not like being an accountant or a lawyer or a doctor where there are bounding boxes about what school you go to, what process, what license you need to have, et cetera.

Being a founder is a lot closer to being an artist, a painter or a-- you don't know what the next painting is. You don't know whether that painting is going to be good or not. It's like being a sculptor or a writer or a musician or at least one that's writing music. It didn't work, is that the right team, It's not …. You become an artist because it's passion driven, not because it's career driven. Now if you want a career and a good job, that means you're normal. And so you should join a large company. You could join Google and Dropbox and Facebook if you want today and you'll be surrounded by great technology, and by the way it's a good place to start. But if you think your head is wired in a different place, if you see things that other people don't, or hear things that other people don't, and no one else hears that music but you do, welcome to the club, welcome to my club. You're going to have a hell of a life, so welcome to innovation and entrepreneurship.

So being at the History Museum, I should mention this because this is not an observation about this museum or this history, but history is written by the funders and the victors. It's not <u>the</u> history, it's the history that's told by the survivors. Intel did not invent the first CPU, the microprocessor. Andy Grove was not a saint, though his company funds a ton of the museum, blah, blah. Microsoft was a rapacious and illegal competitor, though Bill Gates is now a philanthropist like Carnegie who used to shoot strikers in the streets. So understanding the true history, sometimes is colored by who's funding the historians and I don't mean this museum, I just mean the world in general.

That's one thing I just needed to say is that it's the unspoken and untold histories. I lived through part of that competing with Intel so I could speak in this case from some knowledge and I lived through the Microsoft story but there are others. Again, Facebook's effect on the U.S. and what goes on in boardrooms-- the other one is what goes on in board meetings which never gets discussed because we tend to focus on the face of the company which are the CEOs.

The second part is, and I get this from reading oral histories here at the museum and also oral histories at IEEE and ACM, is that the effect of U.S. Military funding on innovation and entrepreneurship is completely missed and misunderstood, even in the histories, unless you closely read some of the responses that some of the people were, "Well I was at the Princeton Institute of X." "Oh, you were working for the National Security Agency."

Hancock: Yeah, who funded that?

Blank: "Oh, you worked on Y, well huh, what agency could that have been?" Not that there's quote "secrets" we want to disclose, but as historians we actually need to understand the effect of military funding directions and the cross fertilizations or not, and the interest levels. And I just think that when I'm interested in history, I want to know where it's really coming from.

When I grew up, and I'm going to give you the civilian side of this, we learned history in the United States about the Civil War and then somehow there was something called the Reconstruction and maybe carpetbaggers and then we skipped to the Progressive era. Well what happened in this those 35 years? Turned out the United States was a pretty nasty place, we had ethnic cleansing, we had ethnic pogroms, , it was a terrible place. There's a history out called "The Republic for Which It Stands" which goes through that era. And as Martin Luther King said, "The arc of justice ultimately swings to the good side," but this was not a good place to be, yet our histories skip that stuff. And so I now treat history as, well that's the halftime score, and I just wonder what the rest of the score is. And please don't take this as any comment here but doing an oral history in a history museum makes me think about the histories of questions left unasked and people not yet spoken to.

Blank: So that's it, that's the sidebar.

Hancock: It's important.

Blank: Well I don't know if it's important but it's just, I would never have been thinking about this until you guys asked me in and then me thinking about all the histories I've read knowing that that guy-- here, I'll give you my-- who's the guy who did the biography of Steve Jobs and of…

Hancock: Walter Isaacson?

Blank: Isaacson, great, did the history of the Valley, right or history of technology, one of his last books.

Hancock: "The Innovators?"

Blank: "The Innovators." -- he manages as a journalist to put a lot of pieces together, but it was an example of a journalist writing history, he talks about a guy named Davies who did some early packet switching work, did I tell you this story?

Hancock: No.

Blank: All right. And of course, describing Davies' history. Well obviously, he saw the phrase but he had no idea what it meant so he said, "Oh Davies in World War II worked on tubes used in nuclear something production." What he didn't understand is what he obviously read is Davies was actually part of the British nuclear weapons program called Tube Alloys. And unless you actually understood the history then you rewrote the history into something meaningless when someone else reading it went, "Wait a minute, he was part of Tube Alloys, holy cow." There was a much deeper place to go where he didn't go at all, And as I said, those histories which was the intent of "The Secret History of Silicon Valley" is to explain that yes they're thought of as separate but there's a world where they actually did overlap and we don't do a good job of explaining it because most people don't know where to go.

END OF THE INTERVIEW