

# **Oral History of Thomas J. Perkins**

Interviewed by: John Hollar

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**Hollar:** For historical purposes we're trying to get as many people on record as we can discussing an "aha moment." There are two "aha moments" I'd be interested in hearing about from you. One is the first time that you understood that physics or math was really a special interest for you, and the second is when you knew that venture investing was really appealing. Could you talk about the first one?

**Perkins:** Well, the first one goes back to when I was a little kid I think. Some rich relative gave me a little model steam engine. You plugged it in, water boiled, the wheel went around, and I was just fascinated by that, why did it work, how does it work, and I got interested in mechanical devices. And I got into junior high school. I was just very interested in how things worked, from the physics side mostly. so I made all sorts of gadgets. I made a Tesla coil that could shoot sparks about ten feet and obliterated all radio reception within 20 miles I think. Stuff like that, and playing with it, being able to light a fluorescent light bulb by just holding it in your hand and letting this machine radiate you. So I loved physics, I loved science, and in high school I was very, very good in math and science and my high school physics instructor was a key person in my life who encouraged me to go to MIT and take it from there. So that I guess that was the "aha moment," a Christmas morning when I got that little steam engine.

Hollar: Did you seek out this physics teacher or did he spot-

Perkins: No. He-

Hollar: -you or-

**Perkins:** Well, he was the physics teacher and I became friendly with him. I was building kit television sets to sell to people. In the early days of television, you could buy a very expensive set or you could buy a kit and build your own set. That's quite a bit of work and I was good at putting those things together. I could put them together very quickly and sell them and make a profit so he was one of my customers, and then when I finally got into his class he I guess recognized that I had a knack for science and at one point—it caused something of a stir—he got ill for a few days and he couldn't teach his class so he called the school administration and he asked them to let me teach his class, which I think was actually illegal, so they had to bring in a substitute teacher to sit there while I did whatever I could do. So I was pretty good in math and science and—

Hollar: Let me go back to building the kit televisions and selling them.

Perkins: Yeah.

Hollar: Was that a business?

**Perkins:** It was a hobby, business, yeah. I was mostly going to school. When I was a kid we didn't have much money so I did endless odd jobs, grocery bagging and paper routesand mowing lawns, baby-sitting, and then I got this kit television idea. I built one for my own family. I forget how long it took me. It wasn't very long to put these things together although there was a zillion parts in it. It was just a bag of parts and the television screen was about two and a half inches wide so to see the picture you- well, maybe a little more than- maybe four inches but something like that, and you had to put a lens in front of it that you filled with oil and it was a plastic lens. You'd fill it with mineral oil and it would enlarge the picture if you looked directly at it, but from the side it- of course it didn't work. It was junk by modern standards but people wanted them.

Hollar: Was that your first taste of commerce?

Perkins: I-

Hollar: That's pretty entrepreneurial.

**Perkins:** I suppose it was. I didn't think of it that way and I sure didn't make a great deal of money on it either but it- yeah, it was I guess entrepreneurial.

Hollar: You have mentioned before that this physics teacher was very influential for you-

Perkins: Yes.

**Hollar:** —and I wanted to talk for a minute- that's one of the specific areas I wanted to explore with you is how mentors influenced you, who the great mentors have been for you. I know you talk about Georges Doriot—

Perkins: Right. Well-

**Hollar:** —very eloquently.

**Perkins:** Yeah. I presume this still goes on today as it always has but I think a young person needs a mentor, and I think an older man in a way needs a protégé. It's a mutually beneficial arrangement that has gone on for millennia and I think will continue so you're lucky to have such older men that are willing to devote a lot of energy and time to bringing along younger people. I've tried to do that. Whether I'm as good as the ones I had I have no idea, but I've also spent time , doing that.

I guess the first mentor I had was Mr. Wilson, the physics teacher in high school, and he took a great interest in me and wanted to be sure that I went to college. I had not been planning to go to college. We didn't particularly have the money to pay for it, my family didn't, and nobody in the family had ever gone to college and I just wasn't planning to do it, and he persuaded my parents— He came over one evening to my home and he persuaded my parents that this kid has just got to go to college and I'll help him apply and we'll try to get him a scholarship and all that but you've just got to accept that he's going to go to college. And my parents said, "Well, okay. Why not?" so I applied to both Harvard and MIT and I got the better scholarship from MIT so that's where I went. I was accepted at both of course. At MIT— MIT was a very tough experience for me because although I'd done extremely well in high school it wasn't a very good high school and there were serious gaps in my preparation. Principally, my high school didn't teach any differential calculus at all and it was a requirement for MIT which they waived in my case 'cause my other grades were very good, but that freshman year at MIT was bewildering. I had never been in a situation where I really didn't know what the teacher was talking about. I really didn't know. I joined a fraternity at MIT 'cause it was a cheaper way to live than in the dormitory and the fraternity took charge of me and said, "Look. We're not going to let you get bad grades and maybe flunk out" and so a senior at MIT in the fraternity, a guy named DeWitt who was a physicist, coached me and taught- really taught me the essence of calculus. And when I got it the light flashed and then I was fine so I was lucky to have that individual, and then there were professors at MIT that were pretty good mentors and were also entrepreneurial. There was a company called Bolt, Beranek and Newman that did a lot of pioneering work in acoustics and Professor Beranek took an interest in his students and invited us to his home and we got to know him pretty well. And he was doing quite well as an entrepreneur so this idea of entrepreneurship just slowly was seeping in, I think, into my thinking but I was always planning to be an engineer or a physicist and it wasn't until I got to Harvard Business School where I met Professor Doriot that I think the light really went on.

Doriot was an extraordinary man. He was very controversial at the time because he didn't follow the case method which Harvard is built upon, Harvard Business School. And instead he just lectured but his lectures were amazing and we became quite friendly and I really respected him, and when I graduated he offered for me to be his assistant for a year, which was an honor, but I'd already decided to come to California so I couldn't do that. And then many, many years later he asked me to run American Research and Development but I was already too embedded in Silicon Valley to do that, but we were friends and I would visit him when I'd go to Boston and we'd go to dinner or I'd go to his house for dinner. And we'd talk and so he was a big influence and then, just sticking on this mentor thing, the most important of all was Dave Packard and we can get into that a little later as we talk about Hewlett-Packard but it was the combination of all of that that made me think I really wanted to be an entrepreneur.

**Hollar:** You tell the story—I'd love for you to tell it again if you would—about this group project that you had at the business school, and it was much more complicated than Doriot thought that you guys could accomplish. Can you talk about the project that he felt you couldn't pull off?

Perkins: Early in the term the whole class organized themselves into groups. There were probably eight or ten groups of eight or so students per group. Then the next day he said, "Okay, now you have to pick a leader of your group," and my group picked me to be the leader. After all of that was done he said, "All right, tell me why you picked your leader. No. Let me tell you why you picked your leader. You picked your leader because that's the person you would trust with your money and if you didn't do it for that reason you've picked the wrong leader." < laughs> So we had assignments to analyze a couple of companies in the Boston area and that was very interesting. I think we did a good job and we invited Doriot to dinner with the managements of these two companies who were quite different. One was sort of a button-downed manufacturer of food processing machinery and the other was a company that made men's suits for all different labels and they were a very wild bunch of guys, a lot of fun. So we had a great evening doing that, but the serious thing was this assignment. It was the major project for the group and it was to write a report on something in the industry, some process or some new technology or something that we thought was important to report on, and when we started there was a new technology called vacuum melting, which has to do with improving the quality of the material that you're making, particularly steel. If you melt steel in a vacuum all the entrained hydrogen and other gases that occur as you make normal steel will evaporate out and you'll end up with ultrapure material with much higher strength characteristics. Turbine blades are made this way and there are a lot of things that are made this way routinely now but that was a new thing, and so we told Doriot that that's what we were going to work on and he just didn't think that, since it was a semi-secretive process, that we would be able to learn enough about it to make a decent report. But we had done a little checking and we thought yeah, we can do this. So he called me in and he said, "I don't want you to do that. I want you to do something else" and I said, "Well, I think we can do it" and so he said, "Okay. I'll make a deal with you. Everybody else in your group will get whatever grade I think they ought to get on what they've done, but if I don't like your report I'm going to fail you. If I like it, you'll get an A+." And I remember saying, "Well, get the A+ ready because that's what we're going to do," which is really-looking back at it that's the answer he wanted. He challenged me and he wanted to see if I'd rise to the challenge, which we did.

Hollar: You did get the A+.

**Perkins:** We did. I found a copy of the report recently and it's not a bad report even now after all these years.

But the unusual thing about Doriot was that he didn't teach accounting; he didn't teach any particular business school practice. Instead he taught how a young businessman should behave, what your bosses expect of you, how for example you should never say to yourself, "I don't know what my boss wants." In other words, that's not an acceptable frame of mind, that's not an acceptable way to work, you must know what he wants and if you don't you must find out and so forth and so forth, and just simple things on how to behave at a cocktail party and stuff very obvious but also pretty necessary. And some of the students

thought it was just so much hot air. I really valued it because I didn't have any exposure to any of that previously in my life and I found it extraordinary value- of great value so—

**Hollar:** I asked about that second "aha moment," which is the one where you decided you had the knack and the interest for really building these business concepts.

Perkins: Yeah. Well-

Hollar: Did that happen at Harvard or somewhere else?

Perkins: No. That happened actually rather late I guess. I was already working at Hewlett-Packard, and we'll get into how that came about and why and so forth, but I had the idea on how to make a more or less foolproof laser very inexpensively that would be a fraction of the cost of the existing lasers. It would be like a light bulb. It either worked or you threw it away and no adjustments, simple. All the other lasers up until then had adjustments of various kinds and were reasonably complex and expensive, and Dave Packard—we can talk about this a little later—gave me permission to do this—very unusual—to do it while I was working at Hewlett-Packard but on nights and weekends on my own, and it worked and the company took off very rapidly and it became very successful and I made a lot of money on that company all the while still working at Hewlett-Packard. And it reached the point where I either had to guit Hewlett-Packard, which I didn't want to do, and run the laser company full time because it was a lot of employees and multimillion dollar a year business or- so it was one or the other. And fortunately the opportunity came along to merge it into a company called Spectra-Physics, which we did do and I became a director of Spectra-Physics but that didn't require me to leave Hewlett-Packard. And when it was all finished I realized I had been a venture capitalist. I'd had the idea, I put the money in, I'd supervised it, I'd made it happen, I reaped the profits of it, and that's what venture capital is, and the idea occurred to me if you do that once you can do that over and over; why stop with the laser? So then of course we get into the founding of Kleiner Perkins and- but that's basically what we did, and I think the distinguishing thing about Kleiner Perkins is how hands on we are I think compared to our competitors and how willing we are to get in at the very, very earliest stages when there isn't a whole management team and where it's really just the idea. And I think I could not have been a successful venture capitalist if I hadn't done that laser company, which was called University Laboratories, first.

Hollar: You talk about your view of whether it's the idea or the person.

**Perkins:** I guess that's really controversial because most people talking about venture capital say it's the people and of course it's the people, but I think it's more the idea because typically bad people don't have good ideas. So that's the simplistic way to put it but we've had great success backing people who had an idea but no experience in business or in- no management experience or really no obvious qualifications to be the CEO of a new company but their idea was very good, and in most cases those entrepreneurs

succeeded. In some cases, we had to replace them and frequently at the beginning we'd say, "Look. You've never run a big company. Maybe you can; maybe you can't. Let's find out. Let's see how big we can get it. If you need help, we'll help you and if you need to step aside and do science or some other part of the company we'll cross that bridge when we get to it, but bear in mind that that could happen." And off we go, and more often than not we've not had to replace those individuals.

Hollar: Your particular model really requires you to be hands on, doesn't it? You-

Perkins: Yes.

Hollar: It's almost a condition of becoming an investment by Kleiner Perkins that you do that, isn't it?

**Perkins:** Yeah. And I think it's generally well known that that's what we want to do. I've said and I think it's true that money is an absolutely indistinguishable commodity. It's all the same. You have different flavors of water and sugar and money is money is money, and so when you raise money as an entrepreneur clearly you want to get the money and you want to get whatever else you can get with it because it's free; you might as well get some more. And in our case what we offer is deep involvement and all entrepreneurs don't want that, and if they don't want deep involvement we probably won't proceed with them because sooner or later every company has a crisis.

I'm on the board of News Corp, which has been in terrible trouble in the last few weeks. Even giant companies can have crises and little ones have them much more frequently, and you just learn that you need to be there, you need to be involved, and most importantly you need to have the trust of the management so that when something goes wrong they don't try to protect you from it. What you really want them to do is pick up the phone immediately and say, "Look. Such and such happened," this broke or so and so quit or we got sued or whatever so that it doesn't turn into a giant crises so you can get there, help, do whatever you can do and deal with it immediately. And that's our style and we're good at it and if the entrepreneurs want that that's what they get with Kleiner and Perkins.

**Hollar:** There's a word that comes up again and again in your oral histories and in your book and even just listening to you talk, which is "fun," and it's not a word that you commonly hear talking to other entrepreneurs or other venture capitalists or people in the computing industry occasionally, but you use it again and again and again. Where does fun come from for you?

**Perkins:** Well, it is fun and it should be fun and if you can't make it fun find something else to do. <laughs> Okay. Why is it fun? Well, first of all it's exciting and excitement is fun. Roller coasters are fun although they can be terrifying just like ventures can sometimes be terrifying. We try to have a very friendly rapport with the entrepreneurs. There's a lot of teasing and kidding and oh, not horseplay but

trying to keep things as light as possible because there is going to be plenty of times when it won't be light and when you've really got to get serious. And I think fun is all- partly correct but maybe it's more excitement and- enthusiasm and excitement and fun that go together in these successful situations and even in the unsuccessful situations. I can't think of anything that's gone terribly wrong where we're still not pretty friendly with the entrepreneurs. We've tried to help, we tried to prevent it, it didn't work, okay, it's as much our fault as it was the entrepreneur's fault, let's part friends, and that has worked pretty well, but I think- when I think of fun in venture capital I think of the staff meetings that we had and still have every week. Of course, the group has gotten bigger and bigger and there's so much more money now that it's not as exciting and as much fun as it used to be, but in the early days we- it was a mixture of challenging each other and moving it along without a lot of personality in the front. By that I mean I was the founder and the managing partner for years but I expected and almost demanded challenges from my other partners. In other words, if I said, "I think we ought to do such and such" I really would hope and expect that somebody would say, "Well, that's nonsense" if they thought it was and "You can't do that, Tom; you're out of your mind" or- but doing it in a light, friendly way. And so our staff meetings I think we all looked forward to them as it's going to be exciting, it's going to be interesting, it's going to be fun, we're going to get a hell of a lot done in a short period of time, and it's just going to be great. And week after week after week even as problems would come up we would deal with it that way, and I think we had a speed of response and a teamwork going with nobody outranking anybody else that made that a very successful way of doing it. And I've always tried to keep things as light as I can and be-look forward to working with my friends in the companies and in Kleiner Perkins. That's our style.

**Hollar:** There is this phrase from advertising, "Often imitated, never duplicated." When you look at your model, which I think uniquely comes from you and your style, do you feel that that has been true for you and—

Perkins: I think it's-

Hollar: ---and what you've always tried to do?

**Perkins:** Yes. I think we were- in the beginning we were very unique and we've been copied and copied very successfully and we have some superb competitors who we also work with. I think particularly of Don Valentine and the Sequoia group, and we've competed, we've cooperated for 30, 40 years- 40 years and I like Don, I think he likes me, and we've had a lot of fun together. We were both on the board of Wilf Corrigan's LSI Logic. Wilf is a very powerful personality and Don is and maybe I am and we get along very well.

Tthere's a famous joke in the company that Wilf made a pronouncement he was going to make— I can't remember the number but such and such, so many cents a share— two or three quarters down the road, and Don and I didn't think he was going to do it. I said, "Wilf, if you do that we'll build a statue of you and put it in the parking lot," and Don says, "And we'll make it out of gold." Well, he [Wilf] did it so I went in to

Chinatown and I found the gaudiest, most repulsive Buddha I could find but it was big. It was about that big off the floor and in a crazy way it looked a bit like Wilf. It was bald and everything and <laughs> then we got gold leaf somewhere and we presented this to him and <laughs> it was pretty hysterical. It's legend but it just made everything so much more fun.

**Hollar:** That was in one of the early versions of Something Ventured too, that story, and I don't think it made it in the ultimate cut but I'm glad you told it.

## Perkins: Yeah.

**Hollar:** Let me go back to lead us into the Hewlett-Packard story. Let me ask you an opening question, which is: why California? Because you were—

## Perkins: Because-

**Hollar:** —a native of the East, you went to graduate school and undergraduate school there and then all of a sudden you decided to come out here?

Perkins: Well, primarily because of Hewlett-Packard but we also had some family friends back in White Plains who had lived in Berkeley and just loved the Bay Area. So— and they talked about it endlessly, and when I was going to college, they kept saying, "You've got to go to California," so that was sort of implanted. And then I met Dave Packard. Well, I think you know I was working for a competitor of Hewlett-Packard called the General Radio Company, in Cambridge, and in the summer one of my jobs was to test for the accuracy of the Hewlett-Packard instruments, because they were much less expensive than the General Radio counterparts. And the management of General Radio thought that they had to be junk, that they weren't as accurate as claimed, and so forth, and they wanted me to prove it. And so I worked all summer. I tested a number of Hewlett-Packard instruments. I can't remember- the voltmeters, oscillators, spectrum analyzers, whatever they were. And we had a very good laboratory of very highprecision measurements, and in every case, the Hewlett-Packard instrument was as good as they claimed or better, and in some cases better than the General Radio counterpart. So I was very impressed with the Hewlett-Packard equipment, and I knew it was a very small company, and I wrote Dave Packard a letter, asking if I could interview for a job. And he wrote back and said, "Absolutely. Meet me in New York at the IEEE convention," which was a few weeks in the future, "and we can chat." So I went down to New York and met them, and this is a famous story, but- so I went down to New York and got into the armory- the 67<sup>th</sup> Street Armory, I think it is- and there were Dave and Bill, literally assembling their booth, which was a fairly small thing. But they were putting it together, screwing it and pounding nails and stuff, and I walked in and they— <laughs> I helped. I helped them do it, and while we were doing it, they were talking to me and interviewing me. And then when we had it all put together, I thought, "Okay, well, now we're going to go sit down somewhere." And Packard said, "Look, we're going to make you an offer,

so stand by." <laughs> And a week later, I got a letter with an offer which was perfectly acceptable, and I never talked to anybody else because I was so intrigued by those two individuals. And again, they were having fun. They were working, putting this booth together, but they made it into— it was a fun experience. And it just hit me where it mattered, and so I decided to come to California.

Hollar: Were you surprised when you met Hewlett and Packard, who were well-known?

**Perkins:** They weren't that well-known then. The revenue of the company was around 20, 25 million then, so they were a small company, and they were a long way from New York, and they were not a well-known company. However, it was right up my alley. It was electronic test equipment, and my degree was in electronics. I liked them personally, and... <laughs> I liked the fact they didn't have a personnel department, that Dave Packard made the decision. I suppose at one point he said to Hewlett, <whispers> "Should we hire this guy?" And Hewlett said, "Yeah." I didn't catch that, but it was that fast, that quick, and I obviously never regretted it. So that's how it came about.

Hollar: And you had two stints at Hewlett-Packard, briefly interrupted. Can you talk a little bit about that?

**Perkins:** Yeah. I... <laughs> well, I'm probably the only person to ever quit Hewlett-Packard four times, so... <laughs> twice as a younger employee, and twice as a director. But yeah, I— what's the exact focus of your question?

Hollar: You got into Hewlett-Packard, and then you quit.

Perkins: I arrived, and I spent the first several months working in the machine shop, because that was part of their training program. Every engineer or anybody that was going to go into management eventually had to prove themselves on the assembly line or in the machine shop, or something like that. So I did that. And then I went into marketing management, and my region was California and some of the Western states, so it was a very good job. However, I was so restless and so ambitious that after a couple of years, I thought it would be more exciting and I could make more money by being a management consultant. And so I applied to Booz Allen & Hamilton, and got accepted at easily twice what Hewlett-Packard was paying me, and so all that was good, but I absolutely hated the work. <laughs> I felt we didn't have enough time on each assignment to do a really proper job. And consulting's sort of... 20 percent of the effort gives you 80 percent of the answer, but to do a proper job, you really need 95 or 100 percent of the answer, and that takes a lot more time and effort, and costs the client too much. So I was constantly frustrated that I was writing reports and I thought, "Yeah, they're correct, but I wish I had more time to do this and that and this and that." And I just didn't. And so the assignments were very, very brief- a week, two weeks, a month- I mean, just running all over the country doing all kinds of stuff, and I just hated it. <laughs> And so I realized I'd made a terrible mistake leaving Hewlett-Packard. I called up Packard and said, "Can I come back?" And he said, "Yes, but you might be more interested in this thing

that Bill and I are putting money into. It's called Optics Technology. It's being run by a scientist from India, Narinder Kapany. Why don't you talk to him, and maybe you could run the business side of that venture?" So I met Kapany. I decided to do it. This is another long story. <laughs> Kapany and I never got along very well, even though I worked there for about four years. And we built it up. Kapany was eventually able to take it public, but I quit shortly before it went public— had to give all my stock back, never made a penny on it, and chalked it off— you know, you can learn from bad experiences as well as good ones, and that was a bad one. And so then I came back to Hewlett-Packard for a much longer stint the second time around, and that's where we really should get into the computer side of Hewlett-Packard.

**Hollar:** Let's do. Let me ask you one question, though, before we do that. Had David Packard tried to dissuade you from leaving the first time, when you'd gone through two years? He'd had his eye on you, and then here you go to Booz Allen.

**Perkins:** Yes. He was right. He said, "You won't like it. Consult—" Well, he had some extremely negative comments on consultants. <laughs> Hewlett-Packard was not a company that used a lot of consultants, ever— still. And he was just very negative, and then he's just like, "All right." You know, "Stupid boy." <laughs> So—

Hollar: And it sounds like he expected you back at some point.

**Perkins:** I don't know if he expected me back, but when I called up, I don't think he was too surprised. <laughs> I was only at Booz Allen for one year, and that was enough. <laughs>

**Hollar:** So then you go back, and that is a kind of watershed.

**Perkins:** Yeah, this is a watershed, because I had been gone, counting the year at Booz Allen Hamilton, and then about four and a half years at Optics Technology, so I'd been gone for well over five years, and Hewlett-Packard had continued to grow, so it was a much, much bigger company when I came back. It was, I think, doing around 500 million a year, so it had explosive growth, and obviously I had been very foolish to have left it when I did, but that was that. And so they— Hewlett and Packard were in the process— they had decided to establish Hewlett-Packard Laboratories. Prior to HP Labs, all the engineering was done in the divisions, and done very well, and scattered around the country. There were like 17 divisions by then— well, about that. And it— everything was working fine, except that both Hewlett and Packard wanted— they were the ultimate entrepreneurs, and I'd like to expand upon that idea, but they were not able to get certain things done in the division managers didn't want to explore things that might be losers if it was going to come out of their budgets. So Dave and Bill decided, "We need a laboratory where we can kick around really new things— some of them may not work, some of them may work— and kind of do what we want to do." And it was a very good idea, and it's been hugely successful.

So they transferred various engineers from various divisions into the laboratories, mostly from the Bay Area divisions, and they put Dr. Bernard Oliver- Barney Oliver- in charge of it. He was the chief scientist and Vice President of Engineering at Hewlett-Packard— a true genius. It's a word I misuse. I call a lot of people geniuses, but he really was a genius. However, he couldn't manage his way out of a wet paper bag. He just—he was totally bored by everything having to do with management. If it wasn't technical, he just didn't care. And so Dave and Bill decided to- they wanted me back, and they kicked it around, and they decided this would be a good assignment for me, to be the administrative manager for Barney Oliver of HP Laboratories. So I got there just on the ground floor. We had to find space, equipment, hire people, work out budgets- everything you need from a management side to run a reasonably big laboratory. And it did become pretty big. So I had next to no involvement on the technical side of HP Laboratories. I knew what was going on, but I had no- I wasn't working on any project myself, and... but I sort of knew everything going on. And a lot of things came out of HP Laboratories, but the two most important things were projects specifically instigated by Bill Hewlett, which was the electronic calculator, and the computer by Packard. And I'll get to the computer in a minute. But the calculator was a brilliant thing. It was the first use of read-only memories, which are fundamental in all computers these days, and it was a co-invention of Bill Hewlett himself and a scientist named Osborne, and it was made out of printed circuit boards, rather than magnetic memory, as it would be now. And the first application was in the desktop calculator, which was a big success, and it was used for all sorts of scientific calculations, and it turned into a very big business. And then the second project that Bill Hewlett pushed through the Laboratories was the handheld calculator, which the management of the company was very skeptical about, because most of them couldn't understand why anybody would pay— I think it was like \$400- to buy one of these calculators, when you could buy a slide rule for \$25 dollars that would do most of it. And Hewlett just said, "Thank you very much," and just pushed it and pushed it until it emerged, and it was a skyrocket success—just huge success. So this is an example of how individuals at the top of a corporation can be entrepreneurs, and Bill Hewlett made that happen personally.

**Hollar:** What made them the ultimate entrepreneurs? That's an interesting thing to say about people who are mostly identified as being at the top of a really big company.

**Perkins:** Well, it— <sighs> let me answer that in a roundabout way. There has never been a successful corporate venture capital company, that I know of, where any corporation has decided, "Let's go into the venture capital business and make a success of it." There's been hundreds and hundreds of attempts. As far as I know, virtually all of them have failed or come next to nothing. And it's still going on. Apple has opened up one recently, you know? Why did it work at Hewlett-Packard, and why doesn't it work anywhere else? It's because, unless the individuals at the very top of the corporation are pushing it and doing it, it just will fail, and because otherwise, you'll have— well, take Exxon. Exxon, many years ago, made a huge move into venture capital, and I used to joke at the time, "They not only want a tiger in every tank, but they want a turkey on every board." And it just failed totally. Why? Well, because it was run by a committee. There was a committee within the company to look at the deals and make the decisions. But, of course, nobody wanted to be stuck with a mistake, so by the time they finally decided, "This is not a mistake," all the steam was out of the boiler. Somebody else had already done it somewhere else. That's

one reason. Second reason, there's so much rotation. Anybody really sharp in the company doesn't want to be stuck doing a little venture capital operation that isn't in the mainstream of the company. They want to be in the mainstream of the company, so they will get out of it as fast as they can. So you'll have constant rotation, very little follow-up. And then you'll say, "Well, why did you make that investment?" "Well, we wanted to get a taste of the industry," or something. I mean, some other reason.

The only reason to make any investment is to make money, period, full stop. That's the only reason to do it. And Hewlett and Packard understood that, absolutely crystal clear. They would follow everything that they initiated all the way through, every step of the way- into the marketing, the whole story. They were venture capitalists, but they were doing it within the company. But they were pure venture capitalists, and that is how Hewlett-Packard was able to diversify into so many different industries. It was Hewlett and Packard that did it, not subgroups within the company. And the computer was exactly the same thing. Dave Packard saw, and correctly saw, that the company needed a computer, which he sometimes called a "controller" because the word "computer" was a scary word. But so a computer, a controller, that would manage Hewlett-Packard instruments so that you could build an automatic testing station, for example, that would be digitally controlled. So he authorized the Hewlett-Packard Labs to start working on a computer, and it was a 16-bit, very good computer that emerged [ed. note: the HP 2116]. And it— they - it— I don't know, took a couple of years to develop it within the Laboratories. It then got shipped down to the Palo Alto division— which was the old, original division of the company, just off El Camino Real in Palo Alto— to be manufactured and sold, and let's get on with it. And unfortunately, during the first year, no computers were sold. And so unlike the handheld calculator, which had been a skyrocket success, the computer had apparently just laid a huge egg, and Packard was very upset about this, and he called a very famous meeting, which I'll never forget. I had nothing to do with the technical side of the computer. My fingerprints weren't on it, but I got invited to the meeting to discuss what's wrong.

Hollar: And you'd been observing all of this?

**Perkins:** I'd been observing all that. Yeah. Yeah, it was one of the many projects that I was pushing along. And I tried to keep it on budget and all that stuff, but I had no idea how it worked. I was not a computer expert. Very few people were, in the company at that time. So Packard called this all-day meeting, and I guess about 50 of us were there, mostly— well, almost entirely technical people. And there was just this ongoing litany of what's wrong with it. You know, it— oh, the I/O isn't fast enough, and it doesn't have enough index registers, and... just on and on and on and on. And Packard was getting more and more and more angry, and he was just, "How could we make all these mistakes? What have you guys been doing?" Very, very upset. And at the end of the meeting, he sort of said, "Well, Tom, you haven't said anything. What do *you* think?" <laughs> And I said, "Well, Dave, when everything else fails, try selling. We're not *selling* the computer." And he... <growls> and he went on to somebody else, and then I think the next day, he came by my desk, and he said, "What did you mean?" And I said, "Dave, I don't know anything about computers, either, and they're afraid of making fools of themselves, I think, in front of customers. Because the customers will say— will ask some question about anything, and they just won't

know. It's a new gadget, they have no idea how it works, why it works, how it's going to be used, and they're afraid of it, I think." And he didn't say much, and then he walked away again. And then a couple weeks later, he and Hewlett invite me to lunch at the Palo Alto Club, and I didn't know what it was all about. I didn't think they would invite me to lunch to fire me, <laughs> because my laser company, meanwhile, was going gangbusters.

Hollar: This was happening simultaneously?

**Perkins:** Simultaneously, because I didn't quit the company to do the lasers. The laser was booming, and everybody knew that, and I was making millions, personally, on the laser, and— which is very unusual in a corporation. And I thought, "This is finally— maybe they don't like it. I don't know." Instead, it was— we talked about everything. We didn't mention the laser. We didn't even mention the computer. At the end of the lunch, they said, "Okay, we want you to take over the marketing for the computer, so we want you to transfer down to the Palo Alto division and become the marketing manager for that division." Great. So I did. I did it immediately. But I— <laughs> I told both of them that, "I'm going to have to change a lot of things." And they said, "We understand." So I had to break a lot of the molds at the company. The sales force reported to Noel Eldred, who was the Vice President of Marketing, and every Hewlett-Packard salesman sold every product of the company. And all the products were in the catalog, and every salesman had a catalog and a quota, and that's how it worked. And I realized we've got to get experts out into the field to help the salesmen. So I hired 10 or 12 salesman from Digital Equipment.

Hollar: And this was revolutionary. Because you broke the centralized sales model.

**Perkins:** Right. So I hired these experts, and in theory they reported to Noel Eldred, but in practice they reported to me, because we were the source of everything they needed to know. And it started to work immediately.

Hollar: Even though you didn't know, technically, how the computer worked,, you understood—

**Perkins:** Well, I understood that if I didn't know it, they didn't know it, either, because I'm a pretty good engineer, and I understood how all the other stuff worked, but not the computer. So, of course, my immediate thing was to understand the computer, so I spent most of my time, in the beginning, going through the software, really trying to just understand how the whole system works. "What's a compiler? What— <sighs> how do these things work?" The hardware was easy. It was the software that I didn't understand. So I got up, just— and I learned to program it quickly, and I got pretty proficient. It was a simple computer, of course, compared to what they are now, so I was able to get on top of it pretty quickly. And meanwhile, we hired people that really did know how it worked— the DEC salesmen. We acquainted them with the unique aspects. And they then worked with the salesmen and the account managers of all the big accounts, and the computers started to sell, and it exploded in its growth. We— it

went from nothing to millions very quickly, and it was growing at a compound rate of around 50 percent a quarter for a long time. And so, very quickly, it became the largest division of the company. And— but I had to change so many things. We— there were some things in manufacturing that we had to do differently than the other divisions, so I had to change some of the corporate directions in that. Of course, I ended up with most of this computer sales force essentially reporting to me, and not through the rest of the organization. I had to change our policies on advertising. All... <laughs> all Hewlett-Packard advertising was a picture of the instrument and a list of the specifications. That's it. <laughs>

Hollar: It's a datasheet.

**Perkins:** A datasheet. It's just a datasheet, you know? And I think I originated the joke at Hewlett-Packard that if we were in the sushi business, we would advertise it as cold, dead fish. <laughs> And so—

Hollar: So you were an entrepreneur inside a big company.

Perkins: Absolutely. So I just changed everything. And I had full support from Dave Packard.

Hollar: Do you think this was his vision for what the computer could be? Did he feel that-

**Perkins:** No, it— no. It went way beyond what he thought it could be. He really thought it would be an instrumentation controller, and in the early days, the salesmen said, "Don't call it a computer. Call it a controller." But it was a computer, and the reason there was fear is that some of the Hewlett-Packard customers— primarily IBM, but Control Data, various other companies— were buying Hewlett-Packard instruments, and Packard and Noel Eldred were fearful that if we started impinging on them, it might interfere with the instrument business.

Hollar: Cannibalize the business.

**Perkins:** Can— well, yes. And... but that never happened, because within IBM, the people that were buying the voltmeters had really little to do with selling computers to clients. It wasn't much or any overlap. So, very quickly, we got into selling computers as computers, and we had a very inexpensive time-sharing computer system, which had nothing to do with instruments at all, and it sold very well and at very high profit margins. And there was, at one point, an effort by the other division managers to sort of shut me down <laughs>. They were really afraid that we would upset their business, <clears throat> and they— excuse me— <coughs> and the other division managers wanted to do exactly what I was doing. They wanted their own sales force. They wanted their own advertising. They wanted their own everything. And I was the only one that had it. And so there was a huge resentment on the part of the other division

managers, and although I had the support of Hewlett and Packard, and I had the support of everybody that worked for me, the support on the horizontal was zero, <laughs> or even negative.

Hollar: Were you shocked as well at the way that it exploded?

Perkins: I- yes. Well... <sighs> I don't know. I- of course, I had great expectations for it. And so I'd only been the marketing manager for like, I don't know, two or three months, or maybe a little more, and all this stuff was going on, and everybody was getting upset, and the division manager, who was a good guy, had some sort of anxiety attack and couldn't really work, and I, to this day, deny that I caused it, <laughs> but everybody else says I caused it. <laughs> So he disappeared for a while. He came back and everything was fine, but Packard said, "Okay, you-Tom, you run it." So I became the division manager, and the computer just took over everything else. So everything else the division was doing got pushed in the background, pretty much, and the computer became the really big deal. And so efforts were made to slow me down, stop me, and Packard came down one day, and he was gruff and tough, and he said, "Tom, IBM is one of our biggest customers, and we mustn't ruffle those feathers, and this new time-about one-tenth of what their thing does, and would you like to look at our order book and see how we're doing?" "Well, okay." So I showed him, and he said, "Well, how much money are we making on these things?" And I said, "Well, about 75 percent margin." And we were selling them like hotcakes. And he gave me one of his very rare smiles, and said, "Well, I think it's all right to continue." <laughs> So that was the decision. That meeting was one- any illusion that the company was not in the computer business dropped, and we were a computer company.

**Hollar:** Just before you move on, did you learn something about big-company dynamics and corporate politics, and the growth of a small thing into a big thing through all that, that you took forward and have taken forward as a venture investor?

**Perkins:** Well, yes. <laughs> I think I learned so much at Hewlett-Packard, and from Dave Packard. But I think— why did Packard and Hewlett pick me? And I think they understood that they needed an ice breaker, that the whole corporation was essentially frozen in a model and a way of doing things that was going to have to change if the computer would succeed. And, you know, I'd already quit the company once. I'd made millions on my laser, which they knew about, and they thought it was great, incidentally. Great, you know, congratulations, Tom. That's terrific. You know, no "what are you doing?" So I think they saw, look, this is a guy that can get this done, you know. He'll do whatever it takes. He will make everybody— he'll piss everybody off, but he'll get it done. And I did. And so, as I began to have to break down the organization and get in trouble with all the vice presidents and the other division managers, Packard, you know, supported me. And it got more difficult when Packard went back to Washington to be the deputy director of defense, because he was my primary support. And Bill Hewlett, then, of course, took over the company. And Bill Hewlett had never actually, as far as I know, run anything. And so, he inherited a pretty big company, growing very rapidly. And at the management meetings, I would be very

critical of how we were doing things because I always needed more money, more space, more employees, and if I wasn't getting them as fast as I thought I should be, I would make a point of it in these meetings. And so, then he called me to his office after about, oh, I would say after about a year after Packard was gone. And so, again, I thought, I guess I have this deep-seated fear. I thought, maybe he's going to fire me because I've been so sort of disruptive in these management meetings. And instead, he said, "Look, you don't have to do this, but I would like you, if you want, to come up here and help me." And I said, "Well, what do you mean?" And he said, "Well, there's an office right there; it's next to mine. And I want you to help me figure out how to run this place." And I said, "What will my responsibilities be?" And he said, "Well, it'll be a staff job. You know, you just tell me what you think." And I said, "Well, what will my title be?" And he said, "Well, invent one." So, I did. I called myself Director of Corporate Development, which I figured would cover anything I wanted to do. And through some ideas I stole from the Boston Consulting Group, I was able to help Hewlett reorganize the way the company was budgeting and planning and conducting itself in a pretty substantial way over a couple of years.

**Hollar:** Just so you don't get in any trouble through our oral history—this is told in other places—but when you say "stole," they were openly giving you these ideas, BCG.

**Perkins:** Well, yeah. They invited me to a weekend seminar. Started Saturday night and ended Sunday night in Boston, where they presented their whole theory and how it works and why it works and everything behind it, with the idea that you would go home and say, "Boy, I just met these incredible consultants, and we ought to hire them, you know, to help us." Well, I thought, Well, I don't need to hire them. They've just taught me their inner secrets. And they had. And maybe I was a quick study; I don't know. But I felt, I can do this. I don't need them. So, we never hired them. I give them credit, though. I mean, at Hewlett-Packard, I said, "These are, you know, this is all from Boston Consulting." They were a new company then. And so, there was no secret where it was coming from. It was all, you know, market share and growth rates and that sort of thing, which is just common sense now. But it was kind of new and different then. And it quickly took hold, and pretty soon the whole company was, you know, they all drank the Kool-Aid and bought the snake oil. And they were misapplying it, frankly, you know, towards the end. And when Packard came back, he had a fit. He said, "Look, the way you get market share is you build the best product you can build, and you'll get the market share." Well, you know, it doesn't quite work that way, but anyway. It had gone so far and the company was growing so fast, he was never able to change it back. And they still do that, so that was okay.

**Hollar:** And you've called this, in other settings, you've called this the key to your career as a venture capitalist. Is that an accurate statement?

**Perkins:** Yeah. I guess, I think there are several keys. The laser company was very important. Because I was a pure venture capitalist. Then I realized, okay, I've also done some pretty big things here at Hewlett-Packard. I created the biggest division of the company. I helped Hewlett reorganize the whole company. But I was still at HP. And when Packard came back from Washington, you know, my office was still next to Hewlett's. And he walked in, you know, one day, and he said, "Look, Tom, Bill says you've just done, you've been doing a great job. But now I am going to help Bill. And so, we'll find, you know, another thing for you to do." But they'd already given the computer business to others, and it had been split up into a few divisions by then. And so, I knew I wasn't going to go back and run the computer business. I was afraid the only real opportunities were in Colorado and back East, and I didn't want to move. And that is what precipitated my decision to say, "Thanks, Dave and Bill, but I am going to become a venture capitalist." And, of course, they ultimately invested some, the company invested some money with us, so it was a happy ending. And that was the second time I left the company.

**Hollar:** The technology world is exploding, you're clearly one of the main drivers of HP's success. You must have had so many opportunities at that point.

**Perkins:** Oh, yeah. I didn't even take calls from headhunters. I mean, there were a lot of them. I didn't want to leave Hewlett-Packard. I didn't want to go to work for any other company. I didn't think there was any better company anywhere else. I really meant that. And so, if I was going to leave, it was going to be to do something completely different, like venture capital and wealth. And then Kleiner had a very similar background to my own. And there's an awful lot about how Kleiner and I started—Kleiner Perkins. And I don't know...

Hollar: We don't have to cover that.

Perkins: We don't have to do that.

Hollar: So, this is the startup of all startups; right?

Perkins: Well, yeah.

**Hollar:** Because it's a largely new area. It's just you and Kleiner. You've got experience, but still, it's not a proven model at this point.

**Perkins:** No. There's an interesting thing. This is the 40th anniversary of Kleiner Perkins—40 years. And I wanted to find our original business plan that I wrote 40 years ago and just send it to everybody. And we couldn't find a copy of it anywhere. And we looked and looked and looked and looked. And finally it dawned on me, why don't we call our first big investor, Henry Hillman? He's 95 years old, still goes to the office every day. I'd bet he has a copy of it. Sure enough, he had. He sent us a copy of the copy, and I reproduced it and sent it out to all the partners as just a historical tidbit. But it's really interesting to read that. And that's why I wanted to send it out. Because Kleiner and I said way back 40 years ago, "We're going to do a different kind of venture capital." This is before we'd done anything, before we'd raised any money. But it's going to be a hands-on approach with Kleiner and myself deeply involved in it. It's going to be focused on ideas and building teams and not focused on already-existing management teams. It's really going to be as close as we can get to the big bang of the initial idea. And that's pretty much what we did. And then we explained why we were qualified to do this. You know, I'd done the laser thing. Kleiner had done a computerized teaching machine thing. But before that, he'd been at Fairchild and Shockley Semiconductor, and of course I'd been at HP. So, we both felt we were qualified to become new kinds of venture capitalists. And, well, we did. And Kleiner Perkins is still different, I think, although people like Valentine are pretty damn good.

**Hollar:** How important was it that you not only were an entrepreneur and a venture capitalist in the laser business, but both of you had been really close to the founders of big companies with really big ideas? Was that equally important?

**Perkins:** Yes. I think it's, you know, something from here, something from there. You know, Doriot inspired me. I did very well at Harvard Business School. I mean, I've been criticized for saying it was easy. It was easy. <laughs> And I guess I realized I had a knack for this sort of thing. Did well, I did well at Booz, Allen and Hamilton. They didn't want to see me go. I did well at University Labs. I did well at Hewlett-Packard. So, I probably have an abundance of self confidence, which I think some people would say is arrogance. <Laughs> But I don't see it that way. So, I had no doubt that Kleiner and I could do this. And I probably— and, of course, we've had a lot of failures, and we've lost a lot of money and a lot of things.

But we'd thought right from the beginning that venture capital has to be done in a different way. You don't just put your money in with a team of people and see what happens. No. You want to get as close as you can to the key individual or the idea and work with that individual to structure the investment so that the initial money reduces the risk as much as possible. Well, that sounds obvious, and it probably is obvious, but it's harder to do than it is to say. Because what's the risk? Is it technical? Is it the people themselves? Is it legal? Is it marketing? Marketing's always a big risk. And so forth. And if you can't structure the deal so that a minimal investment will get rid of whatever the risk is, don't do the deal. Just walk away. Just don't do it. Don't try. But if you can structure the deal so that the first few hundred dollars, back in those days, reduces the risk, and then you roll in the money, you'll have a home run. If you were wrong and the first investment doesn't get rid of the risk, just walk away, and you haven't lost very much money. If you've just rolled in the money and then you find out it doesn't work, you can be out millions. So, this is all so obvious and so easy to say, but in practice it's hard to do. And also, you need an entrepreneur that is willing to go along with it. And so, let's say the entrepreneur walks in and says, "I need five million to do whatever this is going to be." And you say, "Okay. If you get the five million, you know, you're not going to own that much of the company. Why don't we do it a different way. Why don't we do it so we'll put in a half million, and with no commitments for anything following that. But we'll put that half million in, and you won't get too much dilution from our small investment. And then, if it works, when we put more money in, we'll put it in at a much higher price. And if you run the arithmetic, if you were as successful as you think you were going to be, you will end up owning much more of the company

than if we do it the way you now think you want to do it." Now, these are smart guys, and they can do that calculation pretty quickly. And it dawns on them, you know, that's definitely true. And they usually have enough confidence in themselves to say, "Well, what's the difference? We'll take the first five hundred thousand, it'll work, but we'll take some more. We'll get it at much higher prices, and we'll succeed." And when it works, it works wonderfully. And when it doesn't work, you forget about it, and you didn't lose much money. So, if that's the Kleiner Perkins formula—and it is—we try to do that as much as we can. Not always able to, and sometimes you get it wrong, etc., etc. But that is what was different with Kleiner Perkins.

**Hollar:** There's one other aspect of this that you mention a lot that I don't see discussed very much, which is that you see yourselves as being in it for the long term. You've said on several occasions, "This is a long process, and if we invest, be prepared. We're going to be with you for a long time." And an IPO, in your model, is just an event. It's a happy event.

Perkins: It's a happy event. I used to kid them, say, "You can't get rid of us by going public." <laughs>

Hollar: Now, what is it about that? Why that aspect of it?

Perkins: Okay. Well, because having been an entrepreneur, you know, and having raised venture capital myself for the laser company, I raised a little bit towards the end, I realized most venture capitalists, they're going to be in and out as fast as they possibly can be. And so, I'm not going to get anything more than their money. I'm really not going to get much help. And we do have the reputation of being helpful. And so, I think it's the best thing for the entrepreneur to realize, yeah, these guys are going to be with me even after I've become a big company. And they're not going to push me to go public just because they want to get liquidity. They may push me to go public for financial reasons or whatever other reasons, but they'll still stay with me. And, as I've said to you and I say to everybody, every company is going to have a crisis. It may come early. It may come later. But it'll be big and it will be awful. That's why the word 'crisis' applies. And you will need help. And we will be there to help you. And if the entrepreneur says, "Well, you know, I really don't think I need that much help." Or, "I don't want to surrender more than 51 percent of my company. You know, I don't want you guys to be in control," you know, we'll talk a little further about that, but maybe we'll just say goodbye because I've pointed out to many an entrepreneur, "Look, if we only have 5 percent of your company but if we are your first investors, and you're successful or you're not successful, and you need more money for either reason, if we don't invest, nobody else is going to invest. So, we control the company, whether you like it or not, as soon as you cash our check." And that's a big eye-opener to entrepreneurs sometimes. So, I'm afraid there's no point kidding you. I mean, we are going to be your partners for years. And we do. I mean, John Doerr, still on the board of Google, you know. These things go on and on.

Also, we learn. I don't think I need to know anything more about a small business, frankly, but as these companies get bigger, you know, the problems change. They get bigger. I mean, in the last three weeks,

I learned one hell of a lot about a giant company, News Corp., and its current problems, that I never expected to be learning. So, it never stops, and that's good for me. And God forbid I have to use those lessons somewhere else but, you know, I think you can understand. So, I think we become better venture capitalists and better investors if we stay with these things long enough to really learn what can be learned. Now, there comes a point where, you know, our time is better spent somewhere else. So, we don't always stay on forever. We couldn't. There are 525 Kleiner Perkins companies that we've started. I don't know how many are still in existence. Some of them are awfully big. So, you don't need to stay with all of them, but we do what we can.

Hollar: Let me ask you—I just want to be mindful of your time, too, Tom.

## Perkins: I have plenty of time.

**Hollar:** The Tandem story and the Genentech story are well told. So, I wanted to ask you about another story—and maybe you should just pick it, you know—that represents the best of that model and also maybe an entrepreneur that you've really, really enjoyed working with and that fits your definition of fun.

**Perkins:** Okay. Let me pick Acuson, which was a big success and was acquired ultimately by Siemens. And it was a big success. Okay. So, a business plan about the size of the New York phone book lands on my desk. And, you know, I've kidded around that I don't know how to write a business plan, but I can say how we read it. You know, you look at the back, and if the numbers are big, you look at the front and see what kind of business it is, you know. So I looked at the back; the numbers were big. I looked at the front; it's a new kind of ultrasound imaging system. Now, I know a little bit about ultrasound because I know a lot about optics, and waves are waves. So, I did not read the business plan. I flipped through it, and it was exhaustive. It covered every aspect. It just tried to anticipate everything. And it was written by a PhD who had left HP Laboratories, by the name of Sam Maslak. And Sam, no one had ever worked for Sam Maslak, not a secretary, no one. He'd never run anything. And I guess that's why he thought he had to write a business plan like that. So, I think he talked to a couple of venture capitalists, and he hadn't gotten very far. And he came into this office, and we spent an afternoon. And it was a different meeting than he expected. He said, "Have you read the business plan?" And I said, "No. It's too big." I said, "But I want to talk about the technology of your device," which was not in the business plan very much. And he gave me a very quick answer. "Well, it's going to give better images than the competition." And I kept saying, "Well, why, why? And pretty soon we're down into exactly how it works and how it gets around the problems of acoustical diffraction, you know. And so, we're talking about diffraction and all the problems. Because it was just like talking about lasers. You know, and it's acoustics instead of- but waves are waves and, you know, how you process the image and so on and so on. And towards the end of the meeting, he said, "Well, now are you going to read the business plan?" I said, "No. Do I have to?" He said, "Well." I said, "We're going to invest." And he said, "What?" I said, "Yeah, we're going to invest. But let me just tell you, you've never run anything, you may not be able to run this all the way. And we'll do it the way, you know, with some money and more to follow on, the usual formula. And we will help you

build your management team." And I think I recruited all of his key management team for him. And it turned out he is one of the best managers we've ever had. I mean, I learned a lot from him about management. He was absolutely brilliant.

#### Hollar: What made him so good?

**Perkins:** Born with it. Just a huge dose of common sense in how to deal with people and so forth. So, I stayed with that company for a long time. And it was a public company. He then had another idea for an even better product that would be a further breakthrough. And I parted ways with him over that because it was going to take five years to develop it. And, you know, when an engineer says it's going to take five, you know it's going to take seven. But, in the meantime, there wouldn't be anything new. All resources would go into this wonderful breakthrough. But I said, "Sam, you know, you won't survive that gap. You're going to have to figure out some way to take parts of this big new idea and work them into the existing product line." And "No, we can't do that." And I said, "Sam, I love you. You're a public company. I am going to leave the board. I'm resigning. This isn't going to work." I was right. It didn't work. He had to sell the company. Otherwise, it was a great story. <launabel{eq:selected}

**Hollar:** <laughs> Are you optimistic when you look at Silicon Valley and what's happening here, the technologies, the flow of money? Can this endure and go on and on?

**Perkins:** Yeah, but I think I was really good at taking a very small company and getting it to its first, you know, to its multimillion first phase. I don't have any experience in starting with a huge amount of money and expecting to be a Fortune 500 company within a year the way some of these things are now, and with the evaluations being put on them and so forth. And there is an incredible amount of venture capital that is available. And it can't all make ten to one on, you know. I actually don't know how much venture capital is available in the United States. It's probably pretty close to a trillion, maybe more even, that's been put up by all the institutions and investors and everything. And can that get multiplied by 10 or 50 times? I don't know. I don't think so. Some of it will, but most of it won't. And so, on the other hand, even back when Kleiner and I started, there was a lot of venture capital. It was maybe a hundred million dollars and not a trillion. But that's still a lot of money when, you know, everything is small. So, you can always say there's been ample venture capital. There's never been a shortage of venture capital, but I think there's going to be a disappointment on returns as there was in the dot.com bubble. I mean, when it burst, there were a lot of disappointed venture capitalists. So, could that happen again? I think it could.

**Hollar:** Let me ask you two final questions. What are you working on now that you're excited about? When you look into the future and an opportunity that's right there for you now?

**Perkins:** Well, I'm retired. And so, I'm leaving for Palau tomorrow, and I have my sports submarine, which is unique, on my new adventure yacht.

Hollar: It looks great in the film, the yacht and the submarine.

**Tom Perkins:** Yeah. And so, I am going to try to find out what whales do when they dive. You know, they swim along, swim along, and then they disappear for about 40 minutes. Then they come back and swim along and swim along, and they do that. Nobody's ever gone with them to watch. So, I'm hoping to do that. And the sub should be able to do it. I've got it all outfitted with cameras, high-definition video. I've got sonar on the sub so we can keep track on the whales even as the light level drops and so forth. So I'm very excited about that now. And I'll start doing that day after tomorrow.

Hollar: Is this your first dive for that purpose?

**Perkins:** No. No. I've had the submarine for a while. I had it on my big sailboat, The Maltese Falcon, but I didn't sell the sub when I sold the sailboat. And I've had this idea in the back of my mind to do this. So, I bought a much lesser yacht—it's not a sailboat—just for diving and exploring and filming in the South Pacific. So, that's what I hope to do for the next few years.

Hollar: That's great.

Perkins: Yeah.

**John Hollar:** And then one final thing we always like to ask when we have an opportunity to sit down with someone of your stature. If you were giving advice to someone today who is just starting out, whether it's in technology or just getting out of business school or in finance, what would that be?

**Perkins:** Well, it has not changed over the years, and my advice is to get some experience working for a big, successful company, a Hewlett-Packard, an Intel, whatever, and then become an entrepreneur. And only after you've been a successful entrepreneur, if you still want to do something, think about venture capital. But don't try to start in venture capital. That would be my advice.

Hollar: Okay. Thank you, Tom.

END OF INTERVIEW