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DONALD L. LUCAS

EARLY BAY AREA VENTURE CAPITALISTS:  
SHAPING THE ECONOMIC AND BUSINESS LANDSCAPE

Interviews conducted by  
Sally Smith Hughes, PhD  
in 2009

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Donald Lucas  
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## Project Overview

*Early Bay Area Venture Capitalists: Shaping the Business and Industrial Landscape* documents through videotaped interview with the first generation of venture capitalists the origins and evolution of venture capital in California. The project explores and explains through the words of participants how venture capital in the state originated in the 1960s and 1970s, its intersection with national legislation and policy, the significance of its location, and its role in creating new companies, new technologies, and new individual and institutional wealth.

## The Project

Venture capital was not a term when these narrators began to practice “risk investment” in the late 1960s and early 1970s. The oral histories describe the evolution of the field into the industry of today, focusing on its earliest emergence in Northern California. The narrators describe their circuitous routes into venture capital, their individual approaches to its practice, illustrative investments in key companies, the significance of its location in the Golden State, and its contributions to creating, financing, and building new companies, nationally and, increasingly, internationally.

Conceived and generously funded by Paul “Pete” Bancroft III, the project in its second year has interviewed twelve individuals. In the third and final year, the project scope expands to include interviews with representative investment bankers, attorneys, and early venture-backed entrepreneurs, as well as with additional venture capitalists. Completed oral histories, including those donated by related projects, are available at:

<http://bancroft.berkeley.edu/ROHO/projects/vc/>

An advisory board meets periodically to select individuals for interviews and advise on general direction.

Members: Paul Bancroft III, William Bowes Jr., William Draper III, Jerome Engel, Charles Faulhaber, Franklin Pitcher Johnson, and Alan Mendelson.

Project Director and Interviewer: Sally Smith Hughes

Videographers: Julie Allen, Caroline Crawford, and Linda Norton

Transcriber: Katherine Zvanovec

## DONALD L. LUCAS

Mr. Lucas received his B.A. degree from Stanford University in 1951 and his M.B.A. degree from the Stanford Graduate School of Business in 1953. After serving two years in the U.S. Army, Mr. Lucas worked in the Corporate Finance Department of Smith Barney and Company in New York for four years.

In 1960, Mr. Lucas began a seven-year participation, as both a general partner and a limited partner, with Draper, Gaither & Anderson, the first venture capital firm organized on the West Coast.

Since 1967, Mr. Lucas has been actively engaged in venture capital activities as a private individual. Mr. Lucas currently serves as a board member of Cadence Design Systems, Inc. in San Jose, California; DexCom, Inc. in San Diego, California, Oracle Corporation in Redwood City, California; and 51job in Shanghai, China, and Vimicro in Beijing, China. Mr. Lucas also serves as a Director for several privately held companies.

Mr. Lucas is actively involved in political, educational and community programs, such as the Stanford University Alumni Association, Stanford Graduate School of Business Alumni Association, Stanford Institute for Economic Policy and Research and Zeta Psi. He also serves as a Director for the American Council for Capital Formation. He is a Trustee of the University of Santa Clara. He has been a Regent of the University of Santa Clara and Chairman of the Board of Regents for Bellarmine College Preparatory. He is a member of the Order of Malta.

Clubs include Stanford Buck Club, Menlo Circus Club in Atherton, Menlo Country Club in Woodside, and Bighorn Country Club in Palm Desert.

Mr. Lucas is widowed. His wife was the former Lygia Soto Harrison of San Jose, Costa Rica. Mr. Lucas has three children (Nancy Lucas Thibodeau, Alexandra Lucas Ertola, and Donald Alexander Lucas) and he resides in Atherton, California. Mr Lucas' office is at 3000 Sand Hill Road #3-210 in Menlo Park, CA 94025.



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Interview #1: March 10, 2009

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01-00:00:04

Hughes: It is March 10, 2010!

01-00:00:13

Lucas: Ye gods! We lost a year quickly! [laughter]

01-00:00:18

Hughes: And I am talking to Mr. Donald L. Lucas, the first interview. Mr. Lucas, let us start back with your family and what it was like to grow up in the household, wherever it was. Give me a feeling of what your childhood and education was like.

01-00:00:57

Lucas: So how long should this be? [laughter] No, I'm serious. Two minutes?

01-00:01:03

Hughes: Well, let's say ten minutes.

01-00:01:05

Lucas: Okay. I was born in Upland, California. My family—they were ranchers in Southern California. And on the Lucas side they started in Belgium, and they went to Iowa. You know the Belgian horses—the big horses? Well, they raised them there, and then went to Iowa, then went out to Cucamonga, California and started ranching.

01-00:01:39

Hughes: And about when was that?

01-00:01:41

Lucas: Oh that would be—I don't want to be too precise—but 1870, something like that timeframe. On my mother's side, they were from Alsace-Lorraine, German-French. My grandfather had a big beard and he was old—when I knew him he was about ninety-four, ninety-five years old. He had led wagon trains across, and he was very proud he never had to kill an Indian. And he led a number across to California, so pioneers.

01-00:02:32

Hughes: From the Midwest.

01-00:02:33

Lucas: From the Midwest. So in a way, we're pioneer California. And there weren't very many people out there. We raised grapes, and out of the grapes we made wine, and then we had peaches and oranges and apricots.

01-00:02:53

Hughes: How much land?

01-00:02:55

Lucas:

Fifteen hundred acres. The milk ranch was down in Chino, which is south of Cucamonga, and I didn't spend much time there. My father was president because he had the greatest number of shares. So I worked on the ranch and started working there—we were, of course, all broke during the Depression. What we've been through now, it doesn't seem like much. I mean, we were really broke then. But fortunately, we had some food to eat.

01-00:03:32

Hughes:

Because you were growing it.

01-00:03:34

Lucas:

Exactly, but I started working at twelve years old at the ranch and made twelve and a half cents an hour and learned the value of money. Before that I had sold lemonade in front of the house for a dime, and the neighbors helped make it and they gave me the stuff free. One summer I made \$55 selling lemonade!

But anyway, we were Catholic, and so I went to a Catholic grammar school. I was an altar boy and all that. And so I had a pretty good education. But then right near us there was a big public high school called Chaffey Union High School. I was the youngest of three boys. My older brother, John, never got less than an A, and my middle brother [Richard]—he was the good-looking one, and he had real cute girlfriends, but he swam, and he was more relaxed about life. I, of course, was the baby, and I played sports. When I got into high school, I got a B, and the teacher said, “And you're John Lucas's brother?” [laughter] And I'll never get over that. I'll never get over that. But I didn't get all A's like my brother.

But my brother got his undergraduate degree at Berkeley, he got his master's at Davis, and his PhD at UCLA.

01-00:05:17

Hughes:

In what?

01-00:05:17

Lucas:

In engineering. And then he went to the Max Planck Institute in Berlin, and this was when Russians were still there—it was a postdoc there. So I visited him there and that was a lot of fun, but that's getting ahead of the story. But he ended up as number two guy at JPL [Jet Propulsion Laboratory] at Caltech; he is really smart.

My mom—we called her Gogo—she was the greatest, and she lived to 103! And so all my friends up here got to know her. She was really super; she was a great mom.

01-00:06:06

Hughes:

With three boys in the family, were you all being pushed in different directions in terms of professions?

01-00:06:16

Lucas: What happened is something called World War II.

01-00:06:20

Hughes: Yes, there was that thing.

01-00:06:23

Lucas: And they went away to war, and my brother John was commissioned at Annapolis, and my other brother Richard was a hospital corpsman in the United States Navy. Both of them ended up in the Pacific, but my brother John almost died, of an infection.

I was captain of both the football team and the basketball team, and they never saw me play. That was sad for me because I had a lot of fun. I was vice-president of the student body, etc. So I had a great high school—it was just idyllic. It was a public high school, so we had quite a number of Mexicans because there were quite a number of Mexicans in the area. And then our fullback was black—Lucius Harvey, a great guy, and so I learned to get along and to lead and to help others do better. And I think the sports really helped me, in my business.

01-00:07:34

Hughes: Because of having to work with teams?

01-00:07:38

Lucas: Working on a team. I'm a team player, very much a team player.

I was very fortunate I had a scholarship—an athletic scholarship, not academic—to Notre Dame and UCLA, USC. Then Stanford offered me one! And my advisors told me, go to Stanford. They didn't even offer me a trip up here, but I came and of course I haven't regretted it, had a great time at Stanford, took economics, and I really had, again, just a great time.

After I graduated, I went on to Stanford Business School where I majored in finance.

01-00:08:51

01-00:08:52

Lucas: I was the housemother for the fraternity which included at least a third of the football team. They weren't all doing well in school, so I had to keep them quiet, and I told them I could get better grades, and they did.

01-00:09:01

Hughes: Yes, but you played football as a Stanford undergraduate.

01-00:09:04

Lucas: I played football, but we didn't do that well, unfortunately. But the year after I graduated we went to the Rose Bowl, and that was fun. But I didn't have much money, so I tutored the rich kids in undergraduate accounting. It was

really very helpful, because if you can tutor somebody, it means you really understand the subject.

01-00:09:29

Hughes: Yes, that's very true.

01-00:09:30

Lucas: It's very interesting. I would highly recommend it to anybody.

01-00:09:33

Hughes: Do you see majoring in economics and then going on to finance in business school as just kind of a continuation of the business of the ranch?

01-00:09:47

Lucas: Yes, I have left out—my father had a heart attack when I was young, and so I got involved with the ranch business early on. As an example, the ranch was paying excess profits taxes when they should have used the money to improve the orchards instead of paying taxes.

01-00:09:59

01-00:10:02

Lucas: During World War II.

01-00:10:05

Hughes: Why was that? Was that just standard?

01-00:10:06

Lucas: That was standard, yes.

We had some relatives in the business who I determined they weren't as smart as they thought they were. So I learned about business, and I had to do a little bit as a youngster, but nothing too severe. But I read the *Fortune* business magazines that were stacked up. *Fortune* used to be a great magazine, *the* business magazine. And I played cards; I learned how to count real fast and remember things, and so all that helped.

01-00:10:34

Hughes: So you were good at it, obviously.

01-00:10:38

Lucas: I was good at it.

01-00:10:38

Hughes: But did it also grab you?

01-00:10:41

Lucas: Oh I was going to be involved with finance. My grandfather had started a bank in Cucamonga, but was forced out of the banking business by Bank of America! And so it kind of ran in the blood.

01-00:11:00

Hughes: But your parents weren't saying, "Now Don, you know you've got this background, you would be—"

01-00:11:06

Lucas: No, no, I did it myself.

01-00:11:07

Hughes: This was all generated by yourself.

01-00:11:09

Lucas: Self, yes. But see, being the baby in the family, you know, I was spoiled. And also, my father wasn't well and so Mom was busy. We didn't have help or anything like that, so she was really busy. And so pretty well at a young age I did my own thing.

01-00:11:29

Hughes: Once your father became ill, did you become kind of the financial head of the family?

01-00:11:34

Lucas: No, that was when I was eight years old, so that was early, that was early.

01-00:11:36

Hughes: Oh, you were too young.

01-00:11:39

Lucas: That was early, that was early. But it certainly got me on the way, progressively.

01-00:11:44

Hughes: Were there any long-lasting implications of the economics major at Stanford?

01-00:12:00

Lucas: Oh yes, oh yes, absolutely!

01-00:12:00

Hughes: How does that tie into what comes later? Or does it at all?

01-00:12:08

Lucas: Economics is all encompassing. In fact, today, this instant, it's much more applicable than at many other times, because we're in deep financial/economic trouble today. As we go forward I can tell you how I've been involved in economics. And yes, absolutely. It's a good background. Accounting is fundamental because if you understand how the numbers come together, you can better understand how people maybe can cheat. Or you can better understand how to ask them more detailed information to learn more. In other words, the numbers mean a lot to me, and so I could process them faster than most.

01-00:13:00

Hughes: Did that all turn out to be very helpful when you began to invest?

01-00:13:05

Lucas: Yes, absolutely!

01-00:13:06

Hughes: And you could look at the books and really make sense out of them in a way that I imagine a lot of people couldn't, including certainly myself.

01-00:13:15

Lucas: Well, I don't want to say that, but it gave me a head start. And then I went in the army for a couple of years; I got a direct commission because I had an MBA.

01-00:13:23

Hughes: Tell about that. That was the time of the Korean War?

01-00:13:26

Lucas: Yes, and then I volunteered to go overseas. [chuckling] That's when my brother John was in Berlin, and I'd never of course been to Europe. So I volunteered, and if there wasn't a space open, I was going to Korea, expedited. Fortunately, there was a space open so I went to Germany. I also speak some German. I spent close to two years there, and I had a great time because I worked for the Surgeon General of the Seventh Army, which ran all the ground troops in Germany. So I got to see, and I have a great respect actually for the military.

01-00:14:09

Hughes: And why?

01-00:14:11

Lucas: They're dedicated. They truly are dedicated to our country and to their profession. I was the only second lieutenant at Headquarters 7<sup>th</sup> Army, and I was the only non-regular army, and so I associated with the professionals. And they were professional in what they did. They weren't perfect of course.

01-00:14:44

Hughes: Now you're talking about officers?

01-00:14:47

Lucas: Oh, I would just deal with officers. I ran several clubs, and that's where I did get in touch with some of the sergeants who were a little less professional. But the officers—we had one who was a hero in World War II, and so we talked about what he did. He took on the German tanks—he's just walking along and he took on tanks with his grenades and all. This man had a superabundance of courage, so it was fun talking to him, very exciting.



And then I went to Berlin, and I asked why—we had the oxtail soup—why was it so greasy? “Well, that’s the way the Russians like it.” So I got my taste of the Russians, which wasn’t attractive. They have a lake there, on our side, on the west side there’s all these little sailing boats, and on the other side there’s no boats; that’s the Russian side. So I went in and walked around in East Berlin. You see the war and the Wall; it was something you can’t forget. So it was a good start.

01-00:15:57

Hughes:

When the Wall fell, it must have had particular meaning for you.

01-00:16:01

Lucas:

Oh, it was exciting, yes. To see the people penned up, so to speak, and then you went down Stalinallee, a broad street with a pretty façade and new and all that. One room wide—just for show, not to live in, so that was my first taste of the Russians.

But then I came back, and I interviewed at what people told me was the best investment banking firm at that time on Wall Street—the best training program was Smith Barney & Company. I came home, and they accepted me. I had Christmas at home and then I went back to work at New York. And I was in the corporate finance department and—

01-00:16:48

Hughes:

Finance because that had been your specialty?

01-00:16:53

Lucas:

That’s what I wanted to do, yes.

01-00:16:54

Hughes:

But you didn’t say why.

01-00:16:55

Lucas:

I’m sorry—to make money!

01-00:16:58

Hughes:

Oh! [laughter]

01-00:17:01

Lucas:

You know what they say about money—you want to be where the money is. [chuckling] Okay. You know, I was used to working, and I worked harder than anybody else. I didn’t have any money, so that’s all I could do anyway. And so I was the most successful one in the department.

01-00:17:21

Hughes:

Meaning what? You had more clients and more connections? How did it work?

01-00:17:25

Lucas: Well, at that young age, you don't have clients. This is when I was twenty-five/twenty-six.

01-00:17:28

Hughes: Tell me what you were doing.

01-00:17:30

Lucas: I worked for the senior partner, Charles B. [Barney] Harding, and the Hardings owned a big share of the firm. And they were rich. He was a very nice person, and I traveled with him. I'd write speeches for him, and we'd travel to a steel mill, and there'd be a client at the steel mill, like Youngstown Sheet and Tube was a client. And so I'd go and learn about steel! He was really very nice, too. His brother was Bill Harding, William Barclay Harding. My roommate worked for him. Mr. Harding advised the Rockefellers amongst others. As you know, the Rockefellers had a lot of money and in that generation were doing what amounts to venture capital.

01-00:18:31

Hughes: Yes, I read that. But they didn't call it venture capital, right?

01-00:18:36

Lucas: It was private capital, private investments—whatever you want to call it.

There were three of us in a small uptown apartment. The third person was Daniel Lee Ritchie. He worked for Robert Lehman at Lehman Brothers. So, we would often compare notes of how the two firms did some things in a similar fashion and other things very differently.

While at Smith Barney, I went down to Venezuela to look at some oil things. I was the young kid on the big oil deal. A partner, of course, was in charge. We went into Colombia, and there was a coal development project there just off the Caribbean. The coal was located near Barranquilla. So we went to the capital of Bogotá and that was a lot of fun. Of course I'd never been to South America.

I tried to find a small emerald—I'd heard that they have emeralds there—for my mom, but I couldn't find a store, and I never did figure that out. I went through Panamá and did gamble a little bit and was winning some money, and then they got me high, and I lost all the money. But it was right where my wife-to-be lived—one block away from there.

But then I came back home to the U.S. I had gotten to know the head of our Minneapolis office, Ken Joas, and Kenny said, "Look, they're starting this new computer company, and maybe they need some money, or something." That's what our business was, right? And so I went to the real smart partner in the company, Mr. [Charles W.] Kennard, who had just recently developed the concept of the convertible bond. This was a better way to raise money. He did the first big subordinate convertible bonds; a bond that's convertible into

stock. That's a convertible bond, the first ones. We were the leaders. Smith Barney was the leader.

I thought he would be the appropriate person to introduce this concept of the new computer company Control Data. I went with the president of the company, Mr. Norris, to meet Mr. Kennard. I will never forget it. Mr. Kennard was very patronizing and said, "No, we are not interested." So Mr. Norris got up and walked out the door, and I ran after him. I said, "Whoa, don't go away!" He went away and I lost the deal.

Later on Mr. Joas had another deal and he said, "They're starting this new semiconductor company and you should look at it." So I talked to them and kind of the same thing happened. I met with the people; it was a group that had left Sperry Rand Semiconductor—Sperry Semiconductor in Long Island. They had gone across the bay to Danbury, Connecticut to start the company. It sounded good to me. What I knew about semiconductors you can put underneath your nonexistent little nail.

01-00:23:10

Hughes: Was that your first exposure to high-tech industry?

01-00:23:17

Lucas: Control Data didn't exist then. This was 1957, so it really hadn't happened. Much hadn't happened, certainly not back in New York.

01-00:23:31

Hughes: Where are you with Smith Barney?

01-00:23:35

Lucas: I'm in New York City, all that time in New York. The whole business was in New York. I tried to get Smith Barney to open up out here. I wanted to go back to California.

01-00:23:46

Hughes: Why didn't they? Things were beginning to happen here.

01-00:23:50

Lucas: They made a big mistake, that's what.

01-00:23:52

Hughes: Yes, I bet.

01-00:23:54

Lucas: And a friend of mine, Bill [William K.] Bowes, whom you might have interviewed—

01-00:23:56

Hughes: Yes, I have.

01-00:23:56

Lucas: Bill ran this operation for Blyth. In fact, while I was at Stanford, I had talked to Mr. Charles Blyth about going to Wall Street. And I said, “Well, how about coming to work for you, sir?” “Go back to New York and learn from the big boys.” [chuckling] Well, I want to go back to Mr. Harding and whoever else came into the Smith Barney thing. I was the hardest worker in the department, and I got my work done.

01-00:24:47

Hughes: And that’s what they saw?

01-00:24:49

Lucas: And these were statistics.

Hughes:

Is that what they saw in you?

01-00:24:51

Lucas: Oh yes. And I did the grunt labor. I had a secretary, and she’d type them up, the preparations for pitches to get new business. We were quite successful, and I enjoyed that. I really did enjoy it a lot, but it wasn’t very creative. [chuckling]

01-00:25:10

Hughes: What do you mean?

01-00:25:12

Lucas: Well, I wanted to do more than just do what were called comparisons. Like in pricing something—how do you price a bond? Well, you compare the company with other similar companies, and so you compare their sales growth and their earnings, their profitability—all information obtained from audit reports, accounting reports.

01-00:25:39

Hughes: I see, so you were spending a lot of time perusing documents.

01-00:25:43

Lucas: Working on numbers and doing it fast, accurately, and then helping the sales pitch to the client, but the partner would do that. I would just provide him with the background information.

01-00:26:02

Hughes: Now would the partners do any of this?

01-00:26:04

Lucas: I do all the work. They make all the money. [laughter]

01-00:26:10

Hughes: Yes, but also isn’t there a division of knowledge? Even if they chose to, they probably wouldn’t have the facility with numbers that you had.

01-00:26:22

Lucas:

Oh these guys—they were very smart. Oh they were talented, and I learned a great deal from them. Like when we traveled to South America, we traveled with a lawyer from Davis Polk, a big law firm, and he thought he should have become the Secretary of State. So these were very accomplished people, and we were there to win.

01-00:26:47

Hughes:

So you're learning a lot, and it sounds to me as though you were being stretched.

01-00:26:51

Lucas:

[pause] Not as fast as I wanted to be! [laughter]

01-00:27:03

Hughes:

So where is this ambition coming from?

01-00:27:07

Lucas:

I like to win! There's nothing like winning. Sure! Absolutely, winning's important—not the only thing, but it's quite important. It's better than losing!

01-00:27:26

Hughes:

You figured that out early on, didn't you! All right. You were getting bored, is what I'm picking up on.

01-00:27:38

Lucas:

No, I love working hard, and I love the winning, winning the account, and we won our fair share. But remember Bill Harding, brother of the senior partner, worked with and for the Rockefellers, so there was that. And so that obviously got me going.

01-00:28:26

Hughes:

Did you ever actually deal with the Rockefeller group directly?

01-00:28:32

Lucas:

Not directly. No, my roommate did, and we talked about it at night. Mr. Lehman and his firm were big investors, important people in Wall Street, and so we would discuss it. You know kids—we'd talk.

01-00:28:46

Hughes:

And were you kids picking up on quite a number of differences in the philosophies behind each of these firms?

01-00:28:55

Lucas:

Oh yes.

01-00:28:56

Hughes:

What kind of conversations were you having?

01-00:29:06

Lucas:

Well, it's all about profits, and so this investment banking business is relatively easy. Trying to figure out whether or not this coal mine in Colombia is a good deal or not—that's complicated. And just to finish that story: they have just started production some fifty plus years later. I was a little ahead of my time. [laughter] Or the promoter was a little ahead of his time.

01-00:29:34

Hughes:

So you came back from that trip thinking it was a good deal, that Smith Barney should—

01-00:29:41

Lucas:

No, no. I didn't know that much. See, I hadn't done a complete enough job in analyzing energy. Back then we had lots of oil, so it wasn't in the demand as it is today. So I hadn't done my homework.

01-00:29:55

Hughes:

That was a lesson, wasn't it?

01-00:29:58

Lucas:

Right. It wasn't a failure, because I was helping a client. But we shouldn't have gone there in the first place. We're talking to Standard Oil of Colombia. Their lawyer was our counsel in Bogotá. We touched oil there but that's all.

01-00:30:33

Hughes:

It was early. You're faulting yourself for not picking up on that, but could anybody have picked it up?

01-00:30:43

Lucas:

Oh yes.

01-00:30:44

Hughes:

So it was a matter of doing your homework?

01-00:30:46

Lucas:

What's the economics—and there we go back to economics. Because it was on the coast, but it's now where they take off to take the drugs out of the country. It's near Barranquilla. But the infrastructure was going to be very expensive. It's easier to transport oil than it is coal.

01-00:31:22

Hughes:

You didn't pick up on any of that?

01-00:31:26

Lucas:

Not at the time.

01-00:31:29

Hughes:

Well, you were a young guy. You had something to learn.

01-00:31:32

Lucas:

A lot! But I was working for the firm, and the firm wanted me to do this, and I said, "Super!" And I ended up at Christmas in my home, see my folks, a free trip.

But then what really got me going was the Control Data Corporation. And here was this guy had worked for the Navy and secret aspects of the government to develop new computers. So I thought this was a hot deal, and of course it turned out to be a very hot deal. And I bought 1,000 shares. And it went up, a lot of money, so—

01-00:32:14

Hughes:

Where was the computer industry at that stage? Are we talking about late-fifties?

01-00:32:18

Lucas:

Late-fifties, yes. Well, IBM existed then—to show you how far back they go.

01-00:32:27

Hughes:

Had you been following the development?

01-00:32:30

Lucas:

No.

01-00:32:32

Hughes:

How did you know that computers were a good thing, then?

01-00:32:33

Lucas:

Computers, by definition, they had a good market, and IBM sold at a stratospheric price even then. So this was a new computer, and it worked for the government. This was good.

01-00:32:44

Hughes:

These are huge, massive computers, aren't they?

01-00:32:48

Lucas:

Not that massive, but expensive. But there's room for both.

01-00:32:52

Hughes:

So who was buying them?

01-00:32:53

Lucas:

The U. S. government.

01-00:32:54

Hughes:

And that was enough market?

01-00:32:55

Lucas:

That was enough. And this fellow—he had led the development. It's a simple story.

01-00:33:05

Hughes: And it wasn't Silicon Valley.

01-00:33:09

Lucas: And it was not Silicon Valley.

01-00:33:22

Lucas: And then National Semiconductor— There were eight engineers, and they had left Sperry Semiconductor en masse. So Smith Barney said, “No, we won't do it.” So I said, “Fine. I'll raise the money myself.” So I went to my friends—

01-00:33:42

Hughes: Wow. But you were still employed at Smith Barney?

01-00:33:45

Lucas: Yes.

01-00:33:46

Hughes: And it was okay for you just to go out and do your own thing?

01-00:33:49

Lucas: As long as there was no conflict of interest. Well, I just went ahead and did it. And I asked all the people in the department whether they wanted to invest—I wasn't doing anything illegal!

01-00:33:57

Hughes: Yes, but I can imagine a firm not being too happy about an employee going out and—

01-00:34:05

Lucas: Well, you'll see—you're kind of right, unfortunately.

One of my roommates here at Stanford Business School was Bill Witter, Dean Witter's son. And we were also in the fraternity; we became good friends, and all. A great guy, unfortunately he recently died. And he was working at the Dean Witter office uptown. Of course, he lived in a different place than I did [chuckling]. He went in a limousine to work and all that. I liked going to his club every so often. And so he put in some money; he was the biggest investor. And then I just happened to meet some people. My parents and I just got it together and got it going with the fellow from Minneapolis. So then I go in to my boss Nelson Schaenen and say, “I'd like to go on the board of directors.” “Well, we'll have to consider that.” And then they came back and said, “You can't do it.” And you might have picked up on my personality that that wouldn't have been very well received. [chuckling] And I said, “Why?” He said, “Well, it could hurt our reputation.” I said, “Come on, I'm a clerk around here! I just do numbers, right? How can that hurt your reputation?” I did well at biz school [but] we hadn't learned how to be a director. No courses on directors, and I'm not sure there is one even to this day! And it's something I've spent a lot of time on subsequently—being director, chairman of the board, et cetera.



01-00:35:57

Hughes: And no education, no classes.

01-00:35:59

Lucas: No specific area—yes. So I didn't know what I was talking about, but I wanted to be a director. And he said [I] couldn't. So I said, "Fine, Mr. Schaenen—I quit." And he said "Don, you don't want to do that. You're doing great here, and you've got a great future." And I said—[chuckling] I'm embarrassed about it—"I want to be a director." "Can't do it." I said, "Bye." And so I went home for Christmas and all that sort of thing.

01-00:36:34

Hughes: You're not married yet.

01-00:36:33

Lucas: No, I'm not married, and I don't have any money. It would have been a very unhappy wife if I had been married. I've got no responsibilities.

01-00:36:47

Hughes: Well, I know, but I'm also thinking that you were doing this without having anything in the bank.

01-00:36:51

Lucas: I never even thought about that; didn't give it a second thought.

01-00:36:55

Hughes: Why?

01-00:36:58

Lucas: Hubris. I was going to win! [laughter] I've got to be honest! I probably didn't have time to think about it. I'm not a contemplative type, as you've probably gathered. One of our investors—this is the Good Lord taking over—one of our investors was going through Idlewild Airport at the time, now John F. Kennedy. So I saw him and he said, "You should look into this firm. There's a new firm being formed." This is the last part of 1959-60, right in there. "You should really look into it because they're making these types of investments." There was no name for the company, but they financed small companies. I said, "Thanks a million." And so one of the fellows that I had trained with at Smith Barney was Bob Schumm's son, Jack. Bob Schumm was Rowan Gaither's investment advisor.

01-00:38:24

Hughes: Oh okay. We're getting somewhere, aren't we?

01-00:38:26

Lucas: The plot thickens! The plot thickens! [laughter] So I decided to come here to Palo Alto to be interviewed, and so I arranged to be interviewed by Draper, Gaither & Anderson, with Mr. Gaither's help. They said they were looking for five guys. And I said, "One out of five—I should be able to make that!"

- 01-00:38:48  
Hughes: Draper, Gaither & Anderson was founded maybe 1958?
- 01-00:38:59  
Lucas: No, they really started in '60.
- 01-00:39:01  
Hughes: So you're getting in at the very beginning, aren't you?
- 01-00:39:05  
Lucas: Oh sure, oh sure. So I go to my boss, Nelson—Mr. Schaenen. "Mr. Schaenen, I want to go and be interviewed by DG&A." And he said, "I won't tell the partners because it'll ruin your career here." Really, I am still touched by that. So I go to Palo Alto. I really don't remember being in Palo Alto other than the Palo Alto Creamery. But they had their office at 145 Addison, and I was going for one for five. Well, it turns out they'd already hired four—Bill Draper, Bill Symonds, who was the accountant, Tom Carey, and Crawford Cooley. The fifth was me.
- 01-00:40:53  
Hughes: And you don't have any connections.
- 01-00:40:55  
Lucas: Of course not. Who cares about connections; we just create connections. But I'm smart and I can do the job.
- 01-00:41:08  
Hughes: That's what you told them.
- 01-00:41:09  
Lucas: Absolutely. And I got sent up to Rowan Gaither.
- 01-00:41:15  
Hughes: Give us a little background on Rowan Gaither. Who is he and what is his background?
- 01-00:41:25  
Lucas: Well, Rowan was fabulous. He had brain cancer, and they hoped that he had gotten well. And he had accomplished a great deal. At one time he had been head of the MIT Rad Lab during World War II; head of the Ford Foundation; He started Rand Corporation and Mitre Corporation in Boston. And a very thoughtful person, a wonderful person. His son Jimmy [James C.] subsequently went to Stanford, and he was chairman of the board of trustees at Stanford for a number of years, and head of the Cooley Law Firm, so you see he took after his father.
- 01-00:42:19  
Hughes: There was some substance there.

01-00:42:20  
Lucas: They were a great family. And I'd come from back East, and so it was decided that I would work for Rowan because he spent a great deal of time there.

01-00:42:30  
Hughes: Why did they hire you?

01-00:42:31  
Lucas: Because I'm so good!

01-00:42:33  
Hughes: Come on, why did they?

01-00:42:35  
Lucas: I don't know! [laughter]

01-00:42:37  
Hughes: You never found out?

01-00:42:38  
Lucas: No. I was the only one *trained* in finance. The only one in the firm. Only one!

01-00:42:52  
Hughes: All right. So they knew that.

01-00:42:52  
Lucas: They did know that.

01-00:42:54  
Hughes: Did they check your record?

01-00:42:56  
Lucas: I don't know. I don't know. But I wouldn't tell lies.

01-00:43:01  
Hughes: Well, I'm just wondering how spur of the moment this decision was.

01-00:43:04  
Lucas: How spur of the moment? Oh, well, General Anderson, as you've probably heard, was the youngest major general ever. And he'd headed the daylight bombing of Germany, and this man can make decisions quickly. He was like a second father to me.

01-00:43:27  
Hughes: Were you being interviewed by all three principals?

01-00:43:32  
Lucas: I don't think I interviewed with General Draper. I don't remember that, but I did with Larry who was more General Anderson's go-to guy, and then Rowan. And I was supposed to work for Rowan, and we really got along. He's very smart. It was sad that he had to go back in the hospital, for his cancer. I used to visit him in the hospital and all that. This is kind of defining for me. I had

done a few deals in addition to National and the experiences in New England, Boston. It was okay; they didn't quite have it, if you follow me. The talent pool wasn't that big. It was very interesting.

01-00:44:52

Hughes: You mean the opportunities to invest weren't there?

01-00:44:57

Lucas: Well, we invested in a few of them. But let's go back to National. Sperry had sued National Semiconductor. During the trial one of the engineers was being questioned about how the junction transistor was made. And they asked, "Why do you put this blue stuff on there?" "Oh, we put on the blue goop; that's what we did over at Sperry." And the lawsuit was over. The company was padlocked. They just shut us down in Danbury, shut the company down.

01-00:45:57

Hughes: Really! Because you'd stolen it?

01-00:46:01

Lucas: Yes, we were guilty! The guys admitted they used their technology—blue goop!

01-00:46:08

Hughes: And that was enough? [chuckling]

01-00:46:11

Lucas: Oh yes, that's way too much.

01-00:46:21

Hughes: But how could it not have come out, because presumably he was under oath.

01-00:46:28

Lucas: Well, you don't have to tell the truth. [chuckling] People do lie! Or they say, "I forget."

01-00:46:42

Hughes: So that was the end of that deal.

01-00:46:46

Lucas: First chapter. It's the next chapter. So another one of my fraternity brothers was Don [Donald E.] Weeden, Weeden & Company. He was back in New York, and they were investors in National Semiconductor. And they put up the get out of jail money—the bail. I'll never forget going into Sperry Rand with this top executive looking down at these little dumb Stanford kids, and they weren't going to give an inch. Anyway, we gave them their quarter of a million and they went away, and we continued in business.

Bernie Rothlein, the president through this, was asked to leave, and Jack Hagerty was made president. Jack had a sales background at Texas Instruments. He was not the long-term president. So later on, I had been

introduced to Charlie [Charles E.] Sporck, who ran operations for Fairchild. Charlie is a real leader, very strong. There were six or seven of these fellows, and they were all willing to come with him. So I flew back to New York and talked to the other investors. “Listen, this is the real deal. We’ve got to hire Charlie and the team.” People in New York didn’t believe me. And I said, “Oh.” So he said, “Come back to California and we’ll talk to Charlie and the team.” So we met, and after a limited conversation in Palo Alto, everyone agreed that these guys were it. So we hired all of them and they took over. So thus I was introduced to Silicon Valley.

01-00:49:01

Hughes: That’s quite a dramatic entrance.

01-00:49:04

Lucas: And it was very stressful!

01-00:49:05

Hughes: How old were you at this point?

01-00:49:06

Lucas: I was thirty-two, thirty-three at this point, and quite exciting because after the new management was public the stock went through the roof. As they say, “That was all she wrote.”

I wanted to get to Silicon Valley and move from back East. I’ll tie this together for you—the contrast between what I had personally experienced in Boston and what I experienced here. The East generally was a closed society. What was important is where your family came from and the past. Out here, we were just interested in doing a good job, and not all this family and old money stuff. Instead we would just get the job done. And so that was a pretty defining moment for me.

01-00:50:04

Hughes: Yes, it was open out here. You didn’t have to go along—

01-00:50:11

Lucas: Meritorious. The best person wins sort of thing.

01-00:50:16

Hughes: And you liked that! [chuckling]

01-00:50:18

Lucas: I liked that.

01-00:50:18

Hughes: So you picked up lock, stock, and barrel?

01-00:50:22

Lucas: Well, we moved the headquarters here.

01-00:50:34  
Hughes: Give me a synopsis of what Silicon Valley was like. We're talking about 1960?

01-00:50:43  
Lucas: It was cherry trees.

01-00:50:44  
Hughes: And apricots, right?

01-00:50:47  
Lucas: Yes. It was beautiful. I used to take a girlfriend down there and look at the orchids. The valley was really pretty. No 280, it was a beautiful place. This is a special place. And I even include Berkeley.

01-00:51:19  
Hughes: [chuckling] Well, that's a different part of the world.

01-00:51:24  
Lucas: It's San Francisco. But really the action's here. The action's here.

01-00:51:29  
Hughes: Well, what was the action in terms of actual industry? Who was around in 1960?

01-00:51:40  
Lucas: [with emphasis] HP.

01-00:51:41  
Hughes: Hewlett-Packard.

01-00:51:41  
Lucas: And I was very fortunate in that regard as well. Draper, Gaither & Anderson wanted me to join the Menlo Country Club. It cost all of \$1,000, plus or minus.

01-00:51:52  
Hughes: Now why did you do that?

01-00:51:55  
Lucas: Because they told me to. The partners. It's the thing to do. I don't remember seeing David Packard there, but the rest of the executive members were there: Bill Hewlett, Noel Porter, Noel Eldridge, Frank Cavier and the rest of his top management. And they invested with us a couple of times. We used to do a deal configuration where we guaranteed a bank loan and then bought common stock at \$1.00, maybe in a five-to-one ratio. There's lots of leverage; there weren't very many shares so that means that if it goes good it goes up a lot, if it goes bad you lose all.

01-00:52:44  
Hughes: I see. Because the investor pool is so small.

01-00:52:46

Lucas:

No, because the number of shares— Like if you raise \$500,000 and sell a dollar a share, it's 500,000 shares. If you have a \$400,000 bank loan and then you raise \$100,000, you only have 100,000 shares plus management shares, a fewer number of shares. Dave and Bill would guarantee their loan for all their employees, and the VP's could buy the common stock. We did everything on the same terms. So that's how they took care of their people. Help out their VP's. They were real leaders, fabulous leaders, team builders.

01-00:53:37

Hughes:

Yes, but they're taking care of their own, too, in a way.

01-00:53:40

Lucas:

That's what I'm saying! Absolutely! And they're making money and getting exposure—everything good. Or if they lose, they learn how not to do that.

01-00:53:50

Hughes:

Did you get to know them?

01-00:53:52

Lucas:

Not that well, not Bill and Dave, but the other fellows. The CFO and the treasurer and some of the other guys. But they were great guys, really great, and I used to see them at the club.

01-00:54:20

Hughes:

Were you learning from them too?

01-00:54:21

Lucas:

Oh yes!

01-00:54:24

Hughes:

Was all the conversation about business deals?

01-00:54:25

Lucas:

No. We didn't talk that much about business. But I learned by example. This was teamwork of the highest order when I'm taking my money and effectively giving the stock action to my employees. And you can see, that stuck in my mind.

01-00:54:47

Hughes:

And how new was that to give stock—

01-00:54:52

Lucas:

I don't think many other people did it.

01-00:54:54

Hughes:

And was it up and down the line? All employees?

01-00:54:56

Lucas: Oh no, no. Just the executives. Because there's not enough for all the employees. So we did get to know them, got a chance to chat with them, and these guys were obviously very good, very good.

01-00:55:15

Hughes: And are you using the Country Club, in a sense? It's becoming a social network for you, I'm imagining.

01-00:55:24

Lucas: Not very much.

01-00:55:31

Hughes: Well, why were you doing it?

01-00:55:35

Lucas: It was a contributing factor.

01-00:55:44

Hughes: Were you enjoying it?

01-00:55:47

Lucas: I enjoyed the interplay with the fellows. We'd go to the men's grill and talk with them and all that stuff. The real moral of the story is these were important men but they had big hearts. Managers were sharing with their team. I've never forgotten it.

02-00:00:09

Hughes: It's still March 10, 2009. I'm still talking very happily with Mr. Lucas, and it's tape two. I think the time is to mention a wife that comes into your story about this time.

02-00:00:33

Lucas: Not too long after I joined the firm, I also had joined this local club in Atherton which is called the Circus Club. And it's the folks in San Francisco who would come down here for the summer. They wanted some place to play, so this has a big field for the horses and tennis and swimming, so they could get together. And you know, a long time ago people didn't have their own swimming pools—so they'd have some place to swim and et cetera, get together. That's the Circus Club. So I'd go to a couple of things. But this was on New Year's Eve, and so I saw this beautiful Latin girl, Lygia Soto Harrison. She had gone to school with my date at Sacred Heart in San Francisco!

02-00:01:34

Hughes: [chuckling] With your date!

02-00:01:36

Lucas: Yes! And so they were good friends, and she introduced me, and so I said mentally, "Bye, bye!" [to my date]. Lygia was Miss Central America, and so that night I asked her whether she would consider marrying me.



02-00:01:55

Hughes: That night!

02-00:01:57

Lucas: I did not waste time. I did not waste time. That's a true story. And people have kidded me about it ever since.

02-00:02:03

Hughes: Well, where was your date?

02-00:02:05

Lucas: Well, she was still over there. [chuckling] True. I can't deny it. She was sweet, and then I was proposing. "Hey, listen, this is midnight, let's go to Las Vegas and have a party!" So that didn't go very far. So anyway we all went home. In any case I still had some work to do.

02-00:02:37

Lucas: Right, right. And so—I got a lawyer at the law firm, a young fellow, to arrange a date. That's how bashful I am. We got married five months later. We had three children Nancy, Alexandra, and Donald. The two girls had been adopted. So we bought a home in Atherton. In fact, we bought on Selby Lane, and then we moved next to Sacred Heart. We just a couple of years ago finished a house one block down from the original house we had bought—so back to Selby Lane. [My wife] put up with a lot because I worked pretty hard and I traveled a lot.

02-00:03:30

Hughes: Had you explained that to her?

02-00:03:35

Lucas: I think she had already figured that out. But she found out the details really quickly as soon as she got married, because I had to make money and take care of the little babies, all that stuff.

02-00:03:50

Hughes: But had she been planning to settle in this country?

02-00:03:53

Lucas: Her father had been assigned to the United Nations for Costa Rica. Her family is an old family from Costa Rica and earlier from Spain, and so that's how she got to San Francisco. She had gone to school there and then came back because her first husband had died, not too long after getting married, unfortunately for them. It didn't take me long to propose, et cetera, et cetera.

Oh, and I used to go down to Palm Springs, so I brought her down to Palm Springs. Of course my parents had to meet her and that was really tricky.

02-00:04:37

Hughes: Why?

02-00:04:40

Lucas: Well, I'm the baby in the family, and so my mother, you know, she had to meet her, and she was so nervous about—

02-00:04:47

Hughes: You mean your wife-to-be was nervous.

02-00:04:50

Lucas: Everybody was nervous. Because I was in a hurry, obviously!

02-00:04:54

Hughes: I would say so! [chuckling] And did she pass muster?

02-00:05:00

Lucas: Sure did, and took good care of my mom, Gogo.

Back to business. The other thing that was very apparent to me after not too much time with the firm, there wasn't a good understanding of finance by the partners. Rowan Gaither had died maybe six months or something after I joined the firm. He was really smart, a genius—leader.

02-00:05:43

Hughes: Did he understand finance?

02-00:05:45

Lucas: No, no, but he understands organizations, people. He was a people guy, and he put together some great organizations: Rand and Mitre, Ford Foundation, et cetera, the law firm. He was fabulous, so that was a huge loss. [pause] You know, it was clear that we were short, and that's when I tried to get Pete Bancroft to join us, and fortunately he did join us. About the same time, Crawford [Cooley] and I were made partners and Bill [Draper] was not. So his father and Bill left the firm. General Draper and his son left the business. General Draper was a very important person and knew a lot of people, et cetera. We didn't fully realize, however, he didn't fully understand venture capital. And his son Bill—a very nice guy had a lovely wife, Phyllis—had worked at a steel mill, so it wasn't a good fit.

04-00:07:25

Lucas: Pitch made the adjustment [from the steel mill] much more easily than Bill. In my opinion, Pitch really developed into quite an outstanding venture capitalist.

02-00:07:45

Hughes: But let's say a little bit more about that because they came into what became known as venture capital by a very circuitous route. Draper, for example, was a general.

02-00:08:09

Lucas: Yes, but that's not how he started. He had been head of Mexican Light and Power and a partner at Dillon and Read before that. Mr. Draper had become

an “appointed general,” meaning that he didn’t have a long military education, background. All you’ve got to know about General Anderson—youngest major general ever; you know he’s a real hero. Daylight bombing of Germany; you know he’s got what it takes. He was a great leader. He was honored, revered, and so he knew a number of the people in New York, important people like Jock Whitney, J.H. Whitney and Company, those kind of fellows. And I’ll never forget going to the 21 Club, and 21 Club people just loved him because they love airplanes, all that. I piggybacked on this and had many good times there.

General Anderson was kind of like a second father to me. He had invested in a company called Raychem, one penny/share to \$150/share. Not many of those deals. And he couldn’t miss; he just did one good deal after another. However much money he wanted just flowed in from these East Coast people. So he was the spiritual leader and the money raiser, and General Draper was the conservative experienced executive. They both got to know each other as our representatives at the start of NATO. And so it was a great opportunity to join a real moneymaker and leader.

02-00:10:48

Hughes:

Why didn’t the business go well?

02-00:10:55

Lucas:

They weren’t real venture capitalists. DG&A had a significant apartment house investment. General Anderson had made the deal. You know, when you get on a roll you think you can’t miss, and that’s when you miss. And then we bought some property around San Luis Obispo. Things we shouldn’t have done—it’s not venture capital. It just made no sense at all.

02-00:11:24

Hughes:

Was that a function of having endless money?

02-00:11:30

Lucas:

No, no. We didn’t have endless. We started with \$6 [million] and it was increased to 7.6 [million], so we didn’t have endless money. No. Too much success—too fast and too much.

02-00:11:39

Hughes:

I’m being presumptuous to question you, but are you perhaps coming from a present-day perspective? That investment in those days had a much broader scope, so that you were not necessarily thinking high-tech, high-risk, immediate return? These guys may have thought that investing in real estate was a great idea.

02-00:12:13

Lucas:

[pause] But that’s not what our investors expected.

02-00:12:14

Hughes:

Really, so venture capital was defined.

02-00:12:18  
Lucas: Well, implicitly, not explicitly perhaps.

02-00:12:21  
Hughes: What did you understand it to be?

02-00:12:24  
Lucas: Small companies that are going to grow into big companies. That's what General Anderson was successful at. He started Lear Siegler, Royal Industries, Raychem—he had a tremendous string of successes.

02-00:12:37  
Hughes: Okay, so I'm wrong in my perception.

02-00:12:40  
Lucas: Well, I don't want to say that, but— [chuckling]. Really, the message is don't read your press clippings because then you'll get a little infatuated with yourself. And the balance had gone away. Rowan had died; General Draper had left. So I had to re-negotiate a loan at Bankers Trust for \$1.5 million which we couldn't repay.

02-00:13:14  
Hughes: Ooh boy.

02-00:13:15  
Lucas: Ooh boy.

02-00:13:18  
Hughes: What are you thinking at that time?

02-00:13:19  
Lucas: What am I thinking? How not to tell my wife we're moving out of Atherton. We can't afford it. [chuckling] So General Anderson left the partnership.

02-00:13:40  
Hughes: Because of that one bad deal?

02-00:13:44  
Lucas: No, no, no. We had several bad deals. See, he used to drill up all his income by drilling oil wells, and he didn't find that much oil in Oklahoma. And I was president of the oil company. We developed a gas stripping plant in partnership with Continental Oil. And they told us—I'll never forget this— [there were] reserves of 110 billion cubic feet. And we only had 10. So that company was broke. We had bank loans, etc.

02-00:14:29  
Hughes: Was that deception?

02-00:14:32  
Lucas: Oh, no, no, no. I'm sorry, the people in Oklahoma said that—the experts, the geologists.

02-00:14:36

Hughes: Yes, but—

02-00:14:37

Lucas: We were deceived, yes, but not deception. They made a mistake; they made a mistake. But then General Anderson went down there with his old friends and said, “There’s more gas near us, and we’ve got to go over and get it.” And he talked the guys into doing that and resurrected that investment. Whew. But that was close, and then we were public and the stock goes down and all that sort of thing. But then we had the loan at the bank, and so they left it to the kids.

02-00:15:13

Hughes: The new people.

02-00:15:15

Lucas: Yes. I think Larry stayed on, Larry Duerig. I’m not sure about that, but it was Larry and Crawford and me. Bill Symon wasn’t a partner—and Pete.

02-00:15:33

Hughes: Well, you haven’t talked about Pete yet.

02-00:15:35

Lucas: We’ll get there. But I’d like to keep the train of thought. It is important to understand what the general partners arrangement with the limited partner was. We believed we had a great deal. The economics were—we had a low salary, \$25,000—but we had 40 percent of the profits!

02-00:15:54

Hughes: That was an incentive, wasn’t it!

02-00:15:57

Lucas: Yes.

02-00:15:59

Hughes: They were giving you a low salary to give you incentive.

02-00:16:05

Lucas: Yes. Incentive. See, the generals didn’t need it. They had their other income. And for the youngsters—that was enough. A much different concept than in today’s venture capital partnerships, which are typically around an early fee of 2 percent of the capital and 20 percent of the profits. And frankly I think that’s a big mistake.

02-00:16:30

Hughes: Well, expand on why that is.

02-00:16:32

Lucas: Well, because, the more money you raise, the more money you make. So, let’s raise a lot of money. Not how can I employ that money wisely? Sometimes yes, sometimes no. There’s been a couple of firms that have done it, and

they're wonderful firms—KP [Kleiner Perkins], Sequoia, Mayfield and others. Sutter Hill, the fellows across the street. There are a number of firms that have done well. But too much money is a common problem. Because inherently, these are smaller investment deals, and they are not infinitely extrapolable.

And so I think the VC business today is in some, if you will, disarray. Maybe too many firms. There's a finite number of new industries that you can participate in, right? They're not infinite. And so perhaps we have too much money chasing too few good deals.

02-00:17:53

Hughes: Yes, I've heard that before.

02-00:17:54

Lucas: And too much interest income, the fee, the 2 percent. In other words, if I can raise a billion dollars, I get \$20 million a year to spend. The partners keep most of it and have some employees go out and do the work. Good deal! But is it such a good deal for the investors? Perhaps not.

So things were kind of tight. Around '65 or so, Doug [Douglas C.] Leander from the Bankers Trust was coming here from Phoenix to call their note, call the bank note. Now that's serious—then you go broke, right? And I kid with people and I say, "I play tough. His plane crashed. And he never made it." It did, unfortunately, I'm sorry. And so it gave us some time, and we worked our way out of that. But that was how close, that was really close. That was how close. It was tough.

02-00:18:58

Hughes: Terribly unfortunate for him and his family, but there you are on your special star.

02-00:19:08

Lucas: Well, and my fingernails gone away. That was tight, but we worked our way through, and then some investments matured and did well.

02-00:19:21

Hughes: Did you tell your wife any of these scary stories? Did she have any clue?

02-00:19:25

Lucas: Well, she wasn't that interested in business. She thinks about her children and just spends money, like any good woman, you know. I would have the guys over, and so she generally knew what was going on.

02-00:19:40

Hughes: When things are going wrong, as in that incident, are you worried a lot? What are you doing when things go wrong?

02-00:19:51

Lucas: Work harder.

02-00:19:52  
Hughes: Yes? How would working harder solve that problem?

02-00:20:00  
Lucas: Well, figure out where we could sell a company, or how to make more money, how to redeploy assets. This is where Pete just did a brilliant job. He took charge of a number of investments in our companies and ended up selling them at good prices. He really did a superb job. A superb job.

02-00:20:24  
Hughes: How did he come to be there?

02-00:20:30  
Lucas: Didn't I say that?

02-00:20:33  
Hughes: Oh that's right. You did say that.

02-00:20:34  
Lucas: We needed talent, and I introduced him, and they agreed, and we brought him in.

02-00:20:38  
Hughes: How did you know him?

02-00:20:39  
Lucas: From Wall Street. We knew each other back there.

02-00:20:43  
Hughes: And you were impressed?

02-00:20:44  
Lucas: I was. Pete has a number of things that I don't have. He's very sophisticated and articulate, and he's much more polite than I am—a number of things. He came from money, and I'm a farmer, and so he gets along with these people much better than I do. Really.

02-00:21:29  
Hughes: Has that held you back ever?

02-00:21:30  
Lucas: I don't think so. He became president of Bessemer. He's got a wonderful way with people.

02-00:22:04  
But we're different personalities as you can tell. So I think together we made one hell of a team. See Crawford ran the books, ran the office, took care of the secretaries and the back office. And that's why I wanted him to be here [at the interview] because he could correct some of the things and make it more accurate. He's older, and he had that law firm sort of background. It was a team effort.

02-00:22:47  
Hughes: How would you categorize what you were doing? What was your job?

02-00:22:54  
Lucas: Make money.

02-00:22:55  
Hughes: Does that mean also spotting the deals?

02-00:23:00  
Lucas: Yes, recruiting, trying to make deals. I'm pretty creative on deal structure.

02-00:23:13  
Hughes: Well, explain what creativity means in this context.

02-00:23:16  
Lucas: You know, how you structure the ownership of a company. I just had more experience than they had in that sort of thing because I'd been doing it for a while, you remember.

02-00:23:34  
Hughes: So we're now in mid to late—

02-00:23:37  
Lucas: '65.

02-00:23:37  
Hughes: And you've been doing this risk investment since fifty—

02-00:23:45  
Lucas: Well, '57 or so. This was jumping in the fire. Things got hot real quick.

02-00:24:00  
Hughes: All this new blood that's coming into the firm, are they working as hard as you are?

02-00:24:06  
Lucas: No, but there wasn't much new blood. The only new blood was really Pete.

02-00:24:15  
Hughes: That's true.

02-00:24:15  
Lucas: Pete did a fine job selling some companies; he just did a superb job of it.

02-00:24:21  
Hughes: Did his social skills coming into it?

02-00:24:25  
Lucas: Absolutely. He got along with the investment bankers, and he just did a wonderful job for us.



02-00:24:35  
Hughes: So he was a wonderful addition.

02-00:24:36  
Lucas: Oh! Fabulous! But I was a little upset with him when we both went to Oklahoma when we were told that we only had a small fraction of the natural gas we thought we had. He said I was a loser, and I didn't like that, because it wasn't my deal. It was General Anderson's deal, and I didn't know anything about oil.

02-00:24:55  
Hughes: And he called you a loser?

02-00:24:55  
Lucas: Yes!

02-00:24:55  
Hughes: Or he called the deal—

02-00:24:56  
Lucas: No, he called me, personally, and that hurt my feelings, so I had to prove he was wrong. [chuckling]

02-00:25:02  
Hughes: It was just more incentive, wasn't it? [chuckling]

02-00:25:07  
Lucas: Yes, and so I did! And so we ended up making good money. We worked on getting an adjacent gas field connected to us, so we worked through that, but that was tough. And that's—

02-00:25:21  
Hughes: Were you behind it, once the decision was made to go after the gas?

02-00:25:25  
Lucas: Well, there was no choice. We had a plant with no gas.

02-00:25:30  
Hughes: So the decision had been made.

02-00:25:33  
Lucas: No, not a decision. We had to sell them [on the idea] to let us process their gas. Continental Oil had this field. I don't know whether it was Continental, to be honest. I've honestly forgotten, but there was this adjacent gas field that General Anderson knew the big wheels in it, and he was successful. We were just dying, and we put a pipeline in there and everything was fine.

02-00:26:09  
Hughes: I'm sorry. I got the deals mixed up. I was thinking about the one where the oil didn't work out.

02-00:26:16

Lucas:

That's the one! You're right, absolutely right. We ran out of gas. There was supposed to be 110 [billion cubic feet]; there was only 10. So we'd been misled by the geologists. But we went to an adjacent pool where they were flaring the gas, and so we put a pipeline over there connected to our plant. Everything ends up happily ever after—after some heart attacks.

02-00:26:45

Hughes:

If things were going well, what was the reason behind the demise of the partnership in 1966? Right?

02-00:26:55

Lucas:

Eventually, 1967. We liquidated the partnership and we made good money. It was terminated in 1966.

02-00:27:10

Hughes:

And why the termination?

02-00:27:12

Lucas:

Because we made a good deal of money. And so we ended up going to an office down here in Palo Alto on Stanford property. I continued doing the same thing which I do today. I've just continued on. And people all did their own individual thing. I obviously like this business.

02-00:27:32

Hughes:

Maybe it's because I don't understand how these things go, but if you're making good money why are you stopping?

02-00:27:43

Lucas:

We got other people's money.

02-00:27:43

Hughes:

Oh! You've used up the fund.

02-00:27:47

Lucas:

The fund's fully invested, and we have other people's money.

02-00:27:51

Hughes:

I see. And you spent it all

02-00:27:55

Lucas:

We *invested* it.

02-00:27:57

Hughes:

[chuckling] Okay.

02-00:27:59

Lucas:

And we can't get our share out until liquidation. The limited partners (including the general partners, limited partner and investor) received their share of the capital invested plus 60 percent, and we received out share of the 40 percent of the profits.

02-00:28:17

Hughes: It was the terms of the deal.

02-00:28:21

Lucas: Yes, the structure of the partnership. In all candor, I think that we had gone through a very difficult time, and we'd just as soon go our separate ways, sort of. Now, we weren't mad at each other or anything like that. None of that, but it was stressful. And we had made a fair amount of money, so let's go do what we each want to do. Pete went back to New York, and General Anderson, Larry, Crawford, and I continued the office together.

02-00:29:12

Hughes: Everybody had more or less come to an agreement that it was time to move on?

02-00:29:17

Lucas: Oh, we all agreed, of course. We were at the finish line and we were tired. It was just natural. It was the terms of the deal. The original term was five years—way too short. So we extended it two years, and that was adequate, but we had to hustle. And thus Pete selling these companies became even more important. That's how we gained liquidity.

02-00:29:45

Hughes: But this system that is so common now, where you raise a fund, and it has at least a tentative expiration date, right? Either the company is sold or acquired or something.

02-00:30:01

Lucas: Interest in the companies.

02-00:30:01

Hughes: The companies, yes, because it's a big fund. Was that something that Draper, Gaither & Anderson had dreamed up? To invest in that manner? Or had you been doing it that way before?

02-00:30:21

Lucas: No, and this is new! No one had done it this way. Let's start over again. No one had done this before. What *had* been done before—we touched on it—the Rockefellers. They used their *own* money, put their *own* money up, make some investment, and as it turned out they did very well. So the expiration is incidental. It's *their* money.

02-00:30:46

Hughes: I understand that.

02-00:30:46

Lucas: But now we have OPM—"other people's money." And they'd like to see their money back, too. And the general partners would like to put our hands on our profits. But I think the key thing that may be missed is the five-year [term] was not wise.

02-00:31:14  
Hughes: Yes, it was too short.

02-00:31:16  
Lucas: Too short, so we forced liquidity on these investments, so we added two years to it.

02-00:31:27  
Hughes: What I'm trying to drive home— What I'm trying to get you to say [Lucas chuckles] is that this was really novel.

02-00:31:44  
Lucas: What was novel?

02-00:31:44  
Hughes: Having this—

02-00:31:46  
Lucas: A limited partnership.

02-00:31:47  
Hughes: Yes!

02-00:31:47  
Lucas: Well, it was the first one, yes.

02-00:31:51  
Hughes: But you didn't say that, you see.

02-00:31:52  
Lucas: Oh, well—okay. [laughter] Well, why didn't you say it? Sure, it was the first one. It was done before us—we had nothing to do with it. We're youngsters. This was done probably by Rowan and Ed Huddleson at the Cooley law firm. That's probably where it originated.

02-00:32:16  
Hughes: And was it just a logical thing to invent this new mechanism for making money?

02-00:32:32  
Lucas: Yes, yes, yes.

02-00:32:33  
Hughes: And it didn't have any direct precedents.

02-00:32:35  
Lucas: I don't want to say that; I'm not sure. See, the whole idea of a partnership is to take people with money, and let the managers invest it. So there's nothing new about that. But it was what we did with the money, i.e., invest in small companies. There was one firm, AR&D in Boston, American Research and Development.

02-00:33:07

Hughes: Yes, [Georges] Doriot.

02-00:33:08

Lucas: Doriot. We both were at the very beginning. And fortunately we'd come back from a difficult position. And so we wanted to take our hard-earned profits and put it in our own accounts. And so that's what we did and very happily. Subsequently I've done this with my own money, and I've had unlimited people and firms invest with us. You can see that that left a blot on my mind, that working in a partnership is tough.

02-00:34:41

Hughes: [chuckling] All right. Why don't we pick up that theme next time. Thank you.

02-00:34:50

Lucas: Sure, sure.

Interview #2: March 24, 2009

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03-00:01:09

Hughes: Today is March 24, 2009. It is our second interview with Mr. Donald L. Lucas. I want to start where we left off, which was your years at Draper—

03-00:01:33

Lucas: Draper, Gaither, Anderson—DG&A.

03-00:01:36

Hughes: Yes, exactly. I was going to pick up at the point of your decision to terminate the partnership. I assume that you were making some choices about how you wanted to work from then on. You'd been working as a group, and as we both know, ever since you have been working as a freelancer.

03-00:02:14

Lucas: You're setting me up. Is that what this is called? [chuckling]

03-00:02:15

Hughes: I'm setting you up!

03-00:02:16

Lucas: I want to clarify. I try to be accurate. I didn't leave. We liquidated the firm. It was terminated, and so we were all free to do what we want. There were no entangling alliances, et cetera. However, a number of us, General Anderson, Larry Duerig, Crawford Cooley, and I all went to another office on Sand Hill Road. Well, prior to that on Welch Road, but then we moved to Sand Hill. I think we lost a couple—General Anderson at that time and Larry. Maybe it was just Crawford and myself [who went to Sand Hill].

But to your question: it was difficult for me because [pause] investing tends to be more of a personal thing for me, and particularly when it comes to the companies. I believe that by spending time with the companies and helping them, you can increase the chances of greater success. Other people have different views. So that's a different style. The firms today—these big multi-billion dollar venture capital firms—they're more investors as opposed to, say, partners or whatever word you want to use.

03-00:04:14

Hughes:

I see. You put your money in and you want it out, but with a greater detachment from the company itself?

03-00:04:23

Lucas:

Well, I would put it the other way around. I get to know the executives, and then I want to help them and help them grow, and of course, help us, help the money investors in the process. But it's more hands on—that's the point.

03-00:04:46

Hughes:

Is that an older style of venture capital? Most of the people I've talked with so far seem to have a similar philosophy. It's not to them just you put your money in and you walk away—it's a very personal engagement with the company.

03-00:05:09

Lucas:

You're saying the people you have talked with are older people. I think it's more a question of volume, i.e., how much money do they have. Remember the two and twenty—2 percent of the money is paid yearly? So they have big salaries *and* they get 20 percent of the profits. So it's a pretty good deal, as I think I intimated the last time we talked. I think that that probably will be reduced to some degree, because it's maybe too good a deal. But in any case, I like to put up my own money and my friends' money, and we all share the gains, if any.

03-00:05:59

Hughes:

Oh is that really the way you do it?

03-00:06:03

Lucas:

Yes, and then I ask them for help, and we have fun, and we've been successful. So it works for me, and it's very satisfying to help the group go on to great success.

03-00:06:23

Hughes:

In terms of the people that you invest with, do you chose investors according to the talents they have that they can then apply?

03-00:06:44

Lucas:

Not necessarily, they're friends. Catch as catch can. Crawford Cooley invests with me to this day, and his son's now also investing with me.

- 03-00:06:55  
Hughes: I see.
- 03-00:06:55  
Lucas: I really enjoy spending time with the executives and helping them. Sometimes I have to fire them. But accomplishing things that haven't been done heretofore is super.
- 03-00:07:21  
Hughes: So you like the hands-on.
- 03-00:07:23  
Lucas: I do! Oh yes, and I'm somewhat guilty. Guilty. Money is not the sole reason. It's an important factor, but it's not the only driving force. The driving force is success. One way to accomplish that is focus.
- 03-00:07:41  
Hughes: I know you're telling me that that's your motivation. But also, I would think that you have a certain responsibility to your investors, even though they may be friends. At least indirectly money has to be *part* of it, because they are not going to be too interested in continuing to invest through Don Lucas if—
- 03-00:08:09  
Lucas: If we lose, if we lose.
- 03-00:08:10  
Hughes: And you don't want to lose either.
- 03-00:08:14  
Lucas: Of course not, no. No, I'm not a good loser. But in addition—I can't think of an exception—there are other people in professional venture capital firms that are in these companies as well. So it's just not me and my friends. When you go on the board of a company, your obligations are to society, the other investors, and also the officers and the employees. So you have multiple parties that you're responsible to.
- 03-00:09:02  
Hughes: Is becoming a board member always a condition of your investment?
- 03-00:09:10  
Lucas: Unless one of my friends is on the board. Well, that's the way it's worked. I haven't thought of it in those terms. But yes, because I think I can add value. At least I think so. See, that's the operative part.
- 03-00:09:29  
Hughes: Please give me a picture of the sorts of things that you might do as a board director. Is there any kind of generic statement you can make? Or would you rather say, well, in the case of whatever, this is how I handled this particular directorship.

03-00:10:00

Lucas:

I think there's two ways to answer it. One is, as one with my background, I obviously like numbers. And so in all cases, I have [to be] deeply involved with the numbers, and a lot of people aren't particularly interested. So that's fine, because typically I'll work with the CFO or the chief accounting officer, or whatever the case may be. There's lots of information in the numbers, and to pull that information out is important. And I do that even for very substantial companies.

03-00:10:49

Hughes:

Because of your reputation in the field, do people look to you with the expectation that that particular function is going to be yours? Looking at the numbers and seeing if they add up?

03-00:11:05

Lucas:

Probably. If you've read the literature, a lot of committees have become more important, you know, Sarbanes-Oxley and all. And I happen to be not as vociferously opposed to SOX as many people are because I do feel that we have not properly accounted for the results. And so we collectively have an obligation to society. We had the accounting scandals re pricing of stock options, etc.

03-00:11:49

Hughes:

Right, I remember.

03-00:11:54

Lucas:

And so we're guilty. Collectively, we haven't done a good job. So that [SOX] was imposed by the government. I don't think that we were doing as good of a job as we should have. Anyway, that's just a fundamental, but there are many other aspects. But the key thing that I focus on is the people. I told you before, I was a coach in some sports, and I'm older, obviously, and I have seen a lot. So often times I can help the team. So I try to help them where there may be deficiencies in management—to help them bring that type of know-how to the company. Build a top team.

03-00:12:51

Hughes:

Do you have a network, probably regional, so that if they need banking expertise or whatever it might be, you would know exactly whom to contact?

03-00:13:09

Lucas:

I can't say that specifically, no. It would be send the word out and send the net out and try to get the best we can. But no, I don't have anything specific, and that would not be right because I don't want anyone to think I'm placing my friends in their company. It's their company; it's not my company; it's their company. But I'd like to help them.

03-00:13:33

Hughes:

I can see there that your long experience would be very valuable.



03-00:13:40

Lucas: But there are prerogatives—you know, the CEO is the boss! And so I try to have a light touch. I'm not light by nature, but I try to be as light as I can, because I have no agenda other than for success. I do have one agenda which is not to fail. That you are working, I guess, in every case with other venture capitalists or whomever.

Hughes: You have your style of doing venture investment, which I'm assuming is quite different than the way many new firms—

03-00:15:12

Lucas: Somewhat.

03-00:15:14

Hughes: —are doing it nowadays. And does that create a certain tension when you're trying to work together on an enterprise?

03-00:15:20

Lucas: Well, I would kind of put it the other way. If we have joined together, they pretty well know what they're going to get from me. It's been a process of selection, adverse selection. They probably wouldn't have participated, because they know what they're going to get with me. I'm an open book.

03-00:15:42

Hughes: [chuckling] And you're not going to budge either!

03-00:15:45

Lucas: Well, I'm going to continue to try to do my best. That's not to say I'm not going to budge. I've been wrong too many times, unfortunately.

03-00:15:56

Hughes: Well, I do want to talk about some failures.

03-00:15:59

Lucas: No, I don't want to talk about those. But one thing I do—you touched on it—is very interesting. I used to invest, as I told you previously, in New England because there's that center up in Boston, and then I've been a very active chairman of the board in a company, HBO, in Atlanta, but I really have pretty much, restricted myself to California.

03-00:16:34

Hughes: But I saw some foreign companies on your bio.

03-00:16:41

Lucas: Oh, I have two Chinese companies. I'm really slowly withdrawing from those because I can't be as active as I want to be. And I can't do as good a job as I'd like to do because there are certain local customs that I obviously have no knowledge of.

- 03-00:16:58  
Hughes: Why did you get involved in the first place?
- 03-00:16:59  
Lucas: Well, they asked me to, and I thought I could help them. I keep learning, even at this advanced age, that the closer geographically suits my temperament better. And I think I can call on—what you were alluding to—the network. I have a better network here; I don't have any kind of a network in China.
- 03-00:17:32  
Hughes: Geographic proximity seems a sine qua non for somebody like you who wants a hands-on style of dealing with a company—unless you're willing to be on an airplane most of your life.
- 03-00:17:52  
Lucas: Or to be somewhat arrogant, and I am losing that. After some mistakes you lose that; you don't quite have the same arrogance.
- 03-00:18:02  
Hughes: Do you consider that you were arrogant at certain stages of your life?
- 03-00:18:06  
Lucas: Oh I'm certainly— Some people probably think I'm arrogant now. There's a difference between being right and being arrogant, and I probably was overarching or whatever you want to call it, pushy, whatever.
- 03-00:18:20  
Hughes: Would another word be overconfident?
- 03-00:18:22  
Lucas: Of course. All those words! [laughter]
- 03-00:18:29  
Hughes: Well, let's pick up the chronological thread, if you think that's the way to go. You're now out of Draper—
- 03-00:18:37  
Lucas: Gaither & Anderson.
- 03-00:18:43  
Hughes: You end up with Crawford [Cooley] in an office on Sand Hill Road, and then what?
- 03-00:18:50  
Lucas: We had some continuing associations. For example, DG&A had sold Tracor, in Austin, Texas, a number of companies—I believe three. So I was on the board down there, and I was Don Lucas from California. You know the Texans, you know the Texans—these are real Texans, but I love them. The company was around \$20 million-\$30 million in revenues. We ended up

around \$1.5 billion. And it was just a marvelous experience. There were a number of people involved who were very talented in finance, so I learned from them—a CPA and a lawyer and an investment banker. So that was a great experience for me, so I continued on that board of directors for a long time.

And there are some other ongoing relationships. We made some additional investments as we went along. We moved up to 3000 Sand Hill Rd., Menlo Park, when this building was built. I participated with the developer of this complex. I've been here, of course, ever since. And then B.J. Cassin came in. And so he and Crawford moved here.

03-00:20:53

Hughes: Do you consider these people partners?

03-00:20:57

Lucas: They were not partners.

03-00:20:57

Hughes: What were they?

03-00:20:58

Lucas: Real good friends.

03-00:21:00

Hughes: And that remains so.

03-00:21:03

Lucas: Yes, to this day.

03-00:21:04

Hughes: So it's always been Don Lucas.

03-00:21:06

Lucas: Well, no, it's not Don Lucas. It's us.

03-00:21:12

Hughes: But it's very different than the way I understand most venture capital firms.

03-00:21:16

Lucas: Yes, we're not a firm. We're individuals.

03-00:21:20

Hughes: I see that. And that's why you're called iconoclastic.

03-00:21:27

Lucas: Well, I don't know what that word means. It's too complicated for me.

03-00:21:29

Hughes: [chuckling] It seems to me that you're a flashback to the older style—well, that's not even true, either.

03-00:21:42  
Lucas: No, I don't think there was an older style. There was no older style.

03-00:21:44  
Hughes: Well, I was thinking of the Rockefellers, et cetera. But on the other hand, they had no contact with the companies they were investing in, so that's not a model.

03-00:21:53  
Lucas: No. I set off by myself because—and maybe I didn't fully answer that first question. [pause] If you help out, you should make money. But everybody feels that way about themselves, so there's some tension. So I just don't have any tension.

03-00:22:28  
Hughes: You didn't want the tension.

03-00:22:29  
Lucas: I didn't want any tension. And it's not arrogance!

03-00:22:31  
Hughes: I have to take from that—and you correct me if I'm wrong—that there had been some tension.

03-00:22:38  
Lucas: Oh sure, sure.

03-00:22:40  
Hughes: You get a bunch of power-wielding men, and it seems to me that—

03-00:22:48  
Lucas: If you get a bunch of men they're going to argue; they're going to fight.

03-00:22:49  
Hughes: [chuckling] And particularly over money.

03-00:22:52  
Lucas: Particularly over money.

03-00:22:53  
Hughes: Money or women.

03-00:22:55  
Lucas: Oh, we didn't have any women problems to my knowledge.

03-00:22:59  
Hughes: [chuckling] I didn't mean in that particular case.

03-00:23:03  
Lucas: We did have disagreements just like anybody, but it wasn't— Well, it was whatever it was.

03-00:23:12

Hughes: Say something, please, about what goes through your mind when you first learn of a new opportunity. Maybe my question is, how do you learn of things?

03-00:23:34

Lucas: Okay. Because founders look for people with money, that's real easy. That's why they come.

03-00:23:39

Hughes: So they come to you.

03-00:23:41

Lucas: But some people just want money and nothing else, and we don't want to do that, so they're disqualified.

But I can just go over one, and this is not atypical, but it's a little bit at the extreme. So I'm sitting in the conference room here, and I get a call from a good friend of mine who is the chief economist at J.P. Morgan, John Lipsky, and now he's the number two guy at the IMF [International Monetary Fund]. He's an economist, and I was chairman of, as I told you, the Stanford Institute for Economic Policy Research, SIEPR. He was on the board of SIEPR, and we got to know each other. I'm a great admirer of his, and he's a really smart PhD economist and all that.

My assistant said I had a call from Beijing. "Of course I'll take the call." He said, "You've got to meet this young lady [Elizabeth Holmes]!" I said, "John, what?" "You've got to meet her; she's fabulous." "Okay." I'm figuring twenty minutes, right? This young lady comes in; I think she probably was twenty-one years old at the time and had left Stanford, didn't graduate, and she had a company called Theran. And I thought this was going to be a short conversation. Well, now I'm chairman of the board and spend a lot of time with her and the company and she's doing super!

She had some other investors, but she was looking for help and money; maybe more money than help. But anyway, she got both whether she wanted it or not! So she's in the area of helping drug companies develop new drugs more efficiently and has some really exciting technology. And so instead of twenty minutes, we spent two or three hours talking. So I got interested, raised some money, became chairman as I said, and we're still at it. And the company's growing quite rapidly and successfully. We've gone through the kind of problems you'd imagine.

03-00:26:01

Lucas: She had no background in business, and so it's quite presumptuous for somebody to say, "I'm going to be president of the company." But there's an important distinction. That's what I felt when I [first] met her. After spending a lot more time with her. I learned her great-grandfather was an entrepreneur and started Fleischmann's – packaged yeast. It was very successful. So that

was one side, that's the entrepreneur side, but she was in the medical side. Ah! It turns out later, the hospital very near where they lived is named after her great uncle who was involved with medicine. So she came by both of the two talents necessary here, one medicine and the other entrepreneurship, quite naturally. You could just see it the way she handles things, the way she thinks. And so obviously I think she needed help. I think that's a fairly typical situation.

03-00:27:21

Hughes: Well, typical and not typical. I don't imagine too many twenty-one-year-old women are starting companies.

03-00:27:27

Lucas: No, but the basic ingredients are there.

03-00:27:31

Hughes: I can understand that. But say something about what she might have run up against just because of her age and maybe even her gender. Were there any extra hurdles that she had to leap?

03-00:27:44

Lucas: Oh, there are advantages. She was attractive, too. [chuckling]

03-00:27:50

Hughes: I can imagine people saying what does this twenty-one-year old know about anything?

03-00:27:56

Lucas: Well, she's really smart. That's very apparent. She's really smart about this business.

03-00:28:04

Hughes: But as you were implying, she didn't know anything about running a company.

03-00:28:10

Lucas: I didn't mean to say she didn't know anything. I said she had a lot to learn.

03-00:28:14

Hughes: Well, I put it too extremely.

03-00:28:22

Lucas: You know, it didn't occur to me.

03-00:28:30

Hughes: Does a woman entrepreneur in the world that you know have an equal opportunity to a man starting out in a business? Have you observed any—

03-00:29:02

Lucas: Bias.

03-00:29:05  
Hughes: Any bias.

03-00:29:05  
Lucas: The answer is no, but that doesn't prove much. We've had some strong female executives, like at Oracle we've got a co-president, Safra Katz, who is female obviously, and she's fabulous. She used to work downstairs here for Drexel Burnham [Lambert]. Nothing stopped her, and she's one of the top fifteen, ten, whatever, in America. So it's not been my experience.

03-00:29:48  
Hughes: Good!

Lucas: Well, I had a strong mom and I'm indebted to her. So maybe there's a positive bias, not a negative bias! [laughter]

03-00:30:01  
Hughes: Now, of all the people that she could have chosen to come to for money, why did she choose you?

03-00:30:10  
Lucas: Well, I think she talked to John. I've never questioned it. You know, when you need money, you go most anyplace.

03-00:30:26  
Hughes: Because you take a very hands-on approach, maybe John realized that she would need your hands-on experience.

03-00:30:43  
Lucas: I think so, I think so. But I also made it very clear, that's the way I operate. But I really have just noticed that there's not a lot of top female executives and CEOs.

03-00:31:12  
Hughes: Why is that?

03-00:31:15  
Lucas: I don't know.

03-00:31:31  
Hughes: What about women in venture capital?

03-00:31:38  
Lucas: There's been a couple; not terribly successful as a whole.

03-00:31:42  
Hughes: Is there anything to be said about a general kind of personality that goes along with venture capital?

03-00:32:01  
Lucas: Well, I would define it differently than maybe some of the people. See, they're executives of the firms now. There's a lot of money to invest, and they

have to be executives. You've got a lot of people working for them, et cetera, et cetera. But see to me, venture capital is about helping the companies prosper, and it's not about the management side of the money, if you will. So I really look at it person-to-person as opposed to organization-to-organization. I don't know whether that explains it?

03-00:32:44

Hughes: Do you feel that that's not the way most venture capitalists go about it?

03-00:32:52

Lucas: Yes. I'm going to get personally involved, and I think they're more detached.

03-00:33:00

Hughes: Yet there are people that have a reputation for getting personally involved. I think of Tom Perkins, for example.

03-00:33:09

Lucas: Well, Tom used to work for me in a company, and I know Tom pretty well. And I don't think he's an exception.

03-00:33:17

Hughes: Really?

03-00:33:18

Lucas: Yes. I'm a great admirer of Tom.

03-00:33:22

Hughes: Because he has a hands-on approach?

03-00:33:24

Lucas: He founded a great firm, Kleiner Perkins, and Gene Kleiner and Tom—Gene's dead and Tom's gone on to other things. But they've done a wonderful job, it's a great firm. It is probably the outstanding firm.

03-00:33:46

Hughes: Why?

03-00:33:47

Lucas: I know several of the people there now, and it's a fine firm, lots of money, lots of success.

03-00:33:54

Hughes: Is that what you look at when you say it's a successful firm? That it makes money?

03-00:34:02

Lucas: No, no. That they have had successful companies from incubation to maturity.

03-00:34:10

Hughes: I see, going back to what you think is central.



03-00:34:12  
Lucas: And that's success. If you're good at building something that's important and big and profitable, then it's going to have made you a lot of money. It's the other way around; it's not the money, it's the end result.

03-00:34:29  
Hughes: Well, you're being very consistent in your philosophy. [laughter]

03-00:34:33  
Lucas: I hope!

03-00:34:37  
Hughes: I know Tom Perkins came out of technology. He had been director of—what was it, the computer division?

03-00:34:55  
Lucas: At HP.

03-00:34:55  
Hughes: Yes, at HP.

03-00:35:04  
Lucas: He's smart, charming, an outstanding person.

03-00:35:11  
Hughes: What I was trying to get to is, you make it very clear that you come from a financial standpoint.

03-00:35:22  
Lucas: Yes.

03-00:35:23  
Hughes: Not from a technological standpoint, and Tom does have the technical background and management.

03-00:35:31  
Lucas: All.

03-00:35:34  
Hughes: Oh really?

03-00:35:35  
Lucas: Not necessarily finance. Most people think you can hire finance, right? But he's got it all. He understood marketing, selling, technology, so he was well rounded.

03-00:35:49  
Hughes: Because of his other HP experiences.

03-00:35:51  
Lucas: And HP is one of the great companies.

- 03-00:35:56  
Hughes: Well, has [lack of a technical background] ever been a detriment for you? The fact that you're great on the numbers—
- 03-00:36:05  
Lucas: I think it's been an asset. I don't argue with them about technology.
- 03-00:36:11  
Hughes: Can you really judge a company in terms of just its people and its finances?
- 03-00:36:21  
Lucas: I go get the experts.
- 03-00:36:23  
Hughes: Okay. So it's not as though you're investing, having no idea about what the technology's about.
- 03-00:36:28  
Lucas: No, no, no. I've got a lot of good friends, whether they come from Stanford or Berkeley, etc.
- 03-00:36:36  
Hughes: So is that what you do? Did you do that, for example, with the young woman? You talked to her, you were impressed, but then you picked up the phone?
- 03-00:36:45  
Lucas: Sure, sure. Well, we have the Lucas Imaging Center at Stanford. So I talked to Gary [M.] Glazer who runs it. We probably have the number-one imaging center in the world! So I said, "Gary, what about this idea?" "Well—." And then I've got some friends at Mayo; I helped Mayo sell their hotel chain. They were going to lose a lot of money. They ended up making a fair amount. And so they have helped me. And so I reach out to other people. And so I consider that an advantage, actually, because I *don't* know.
- 03-00:37:14  
Hughes: Yes, but you see how important the network is to you, and vice-versa.
- 03-00:37:18  
Lucas: Absolutely. And so I nurture that by inclusion—do you want to invest with us? Or maybe, like at Stanford, give them money, or whatever.
- 03-00:37:31  
Hughes: It sounds very satisfying. I like the idea that it's about people.
- 03-00:37:33  
Lucas: It is. I do too. It makes it easy.
- 03-00:37:42  
Hughes: Should we talk about specific companies? How about picking out one?

03-00:37:56

Lucas: I don't know what you're trying to get at.

03-00:37:58

Hughes: Well, I'm trying to get at—lessons is a heavy word—but principles that illustrate how you go about it. What you're thinking about in dealing with other people's money and yours in an entrepreneurial situation—illustrations of your philosophy.

03-00:38:32

Lucas: Oracle would be the easiest, because it's a big successful company and everyone knows about it. How I got involved with Oracle early—they started out downstairs in this building.

03-00:38:49

Hughes: [chuckling] That's pretty convenient.

03-00:38:51

Lucas: That's very convenient.

03-00:38:52

Hughes: Does that mean that you have an incubator?

03-00:38:55

Lucas: No, no. They rented some space downstairs.

03-00:39:02

Hughes: Okay. It's as simple as that. I didn't know them from Adam. So I have to go upstairs to my office, and so I'd see the lights on. I tend to work long hours and come in at odd hours—they're always there at night! So I went to their office and asked, "What the heck do you guys do?" "Oh we make relational databases." And of course, that pffft—right over my head! I said, "Oh really!" And they had a very attractive graduate at Stanford, a gal who was the receptionist, who Larry [Ellison] later married. And they were dressed like they did in those days, hippies.

03-00:39:47

Hughes: And when was this?

03-00:39:48

Lucas: In '78-'79, something like that. And so then they asked me, "Oh we've got this problem of evaluating the stock." Larry barely knew what stock was. So I helped him, and he said, "Well, what about being a director?" "Okay." "Well, how about being the chairman?" I said, "Okay." And that's how it started. It was that simple. So they clearly were doing well. They were making money from the start.

03-00:40:45

Hughes: Just out of those offices down there?

- 03-00:40:48  
Lucas: Yes, and then, of course, they moved out soon—more space, et cetera. And they didn't need any money; they needed business—somebody who knew a little bit about business *and* about finance.
- 03-00:41:03  
Hughes: Why didn't they need money? They had venture capital backing?
- 03-00:41:05  
Lucas: They really didn't need VC capital. They were profitable and generated their own capital.
- 03-00:41:07  
Hughes: Oh I see!
- 03-00:41:09  
Lucas: They took this technology, this technology that was what IBM developed down at Santa Teresa, and commercialized it.
- 03-00:41:22  
Hughes: Had Ellison been at IBM?
- 03-00:41:24  
Lucas: No. He spotted a good idea and he commercialized it. That's the end of the story. But it is pretty unusual in that respect. The point is that they had excellent technology, and they hired great people, got them to focus on success. And they were profitable and did all the right things. Oracle raised some money, before they went public, from venture capital, but it really wasn't needed.
- 03-00:42:10  
Hughes: How soon did Oracle go public?
- 03-00:42:12  
Lucas: It was about eight or nine years, something like that. We went public the same time as Microsoft did, the same year.
- 03-00:42:20  
Hughes: I want to hear about that too.
- 03-00:42:24  
Lucas: There's no story.
- 03-00:42:28  
Hughes: Well, there is to me in a general sense, in that I would like you to say something about how you figure out when it *is* time for a company to go public.
- 03-00:42:40  
Lucas: Yes, okay, just let's get through that, because it's really pretty straightforward. If you have something that's fundamentally cutting-edge, leading, that people,

industry, government want, that you can sell at a profit, and it looks like it will be able to grow significantly, like to \$100 million-\$500 million or larger, that's the sort of thing. And management has the courage to put up with the public, which is a real big deal, then you should go public. Right now we have a hiatus on public offerings, which is a totally separate subject.

03-00:43:31

Hughes: Because of the recession.

03-00:43:35

Lucas: Because of the financial discombobulation, yes. Some people think it's more—I tend not to. But we have had a dearth of IPOs, which I think is bad for society as a whole. It's certainly bad for the financial side. It's certainly bad for the venture capitalists.

But I think if you have these rudimentary necessities and the opportunity for the investors to make a lot of money, then an IPO is appropriate. Now if you don't have those things, or don't have those ambitions, then you shouldn't go public! A lot of people go public to try to get liquidity for their stock, for their stockholders. That's not the reason to do it; it's not for liquidity. The reason for it is to obtain growth capital and that you have significant financial growth ahead.

03-00:44:52

Hughes: Presumably somewhere in there, the climate of the stock market is going to figure in. You're implying that right now is not a very good time, even if you have everything else.

03-00:45:05

Lucas: But some companies just went public. Grand Canyon. One of my friends here just took Grand Canyon public, an educational-type company. But this is more of a debate which I don't think may be appropriate for this. If you've got those fundamental requirements, you can go public. That's my position. And you should go public if you want it—if you *want* the public ownership and need the money.

03-00:45:39

Hughes: The fact that your co-investors are your friends, who, I presume, yes they want their money out, but they wouldn't be dealing with you unless they trusted you at a certain level. So I imagine that the pressure for you to produce returns is probably a little bit less than it would be if it were an anonymous pool of limited partners who maybe could care less about the company. They just want their money out, and they want it out in a reasonable amount of time.

03-00:46:32

Lucas: There's a couple of interesting points here. One, I just want to help you on this—going public isn't the only route to liquidity.

03-00:46:43

Hughes: I know that.

03-00:46:44

Lucas: So you can sell the company.

03-00:46:46

Hughes: Yes, you can.

03-00:46:46

Lucas: So selling a company gives you total liquidity. That's real liquidity. And we did that at Draper, Gaither & Anderson. We had a company and we needed some cash. Remember I told you about our bank problem. Pete negotiated it actually, or maybe this was Crawford, I guess. Yes, Crawford. The president, was Allan Simpkins, he sold Delcon to HP for— We got a couple million dollars in stock. So in many respects, that's better than a public offering.

03-00:47:18

Hughes: I see that.

03-00:47:19

Lucas: Because when you have an IPO you have to wait, and it's only partial liquidity. You get a quote, but that doesn't mean you can sell all your stock tomorrow.

03-00:47:29

Hughes: When a company is acquired, do you then wash your hands of it?

03-00:47:34

Lucas: Well, I've already touched on this. For the most part, when we have sold a company, it's theirs. Now in the case of Tracor, which I mentioned to you, we had sold them a number of companies, and I went on the board, and so it's a little bit different.

03-00:47:59

Hughes: Okay, another area that we haven't talked about— Do you invest in private companies with the idea that eventually they're going to be acquired or go public? Or is there some set of advantages to having a company remain private?

03-00:48:45

Lucas: [Sigh] Well, you don't realize how many buttons you've touched.

Let's just get through the reporting. As far as I'm concerned, once you start a company, you want to be prepared to have a public company and have the capability to report just as if you were a public company, i.e., SEC and SOX, et cetera. So I don't look on it any differently. I want to have auditors auditing the books. Some people don't believe in that. I think it's wrong not to do it that way. You *want* to have that rigor, whether it's public or private or

whatever your objectives are. Some people differ with that. I don't. So as far as the technical requirements, it makes no difference.

03-00:49:38

Hughes: This is a naïve question, but Sarbanes-Oxley applies only to public companies?

03-00:49:48

Lucas: Well, that's a little complicated. In this respect, the government only has authority over public companies. But if you want to be public, you want to be able to comply with Sarbanes-Oxley. You can't do that instantly, so it's better to practice from the beginning. And, my position is further than that—you want to do things right *in any case*. So Sarbanes-Oxley doesn't really pose a burden to me. You have a few additional requirements, but not substantive. You want your books to be right.

Okay, let's go back to the public/private. I hadn't thought of it that way, but we do not contemplate keeping the company private. We don't invest with the idea of keeping it private. I don't believe we've ever had a case of that. But whether or not it may be acquired or sold or IPO, we don't look at it differently, we don't look at that. We're just looking for growth, success, profit, things like that.

03-00:51:20

Hughes: So there would be nothing that you would—

03-00:51:22

Lucas: Do differently.

03-00:51:30

Hughes: Just anecdotally—Sally reading the *New York Times* business section--acquisitions seem to be such the thing these days. First of all, am I right about that? And secondly, if I am, is there a particular reason why acquisitions for legal or monetary or whatever reasons seem to be prevalent?

03-00:52:04

Lucas: [chuckling] You don't realize what a big question that is. If you've got a week or two, bring your cot. [Hughes chuckles] Well, we're in techland here, right? Silicon Valley. And so, it was easy to start companies here. It didn't take a lot of money; it took some good ideas, et cetera. There are more companies than are economic, so they should consolidate because you have the economies of scale. See, that's what we've done at Oracle. We've made, I don't know how many acquisitions, fifty, sixty, quite a few. We did the same thing at Tracor, the same with a number of other companies, i.e., Cadence.

03-00:53:06

Hughes: Fifty or sixty acquisitions?

03-00:53:07

Lucas:

Yes. Nothing unique about that. But the thing is, people don't fully understand this, and many business people don't, unless you've experienced the economies of scale, you don't realize it. Like when Oracle bought PeopleSoft and people said, "Oh, it won't work," et cetera. When you brought the two companies together, you have the opportunities to cross-sell products to each others' customers. We can sell them a database, right? And we had some apps to go along with their apps, and so cross-sell, up-sell, down-sell, et cetera. So you had a broader set of related products to sell people.

03-00:54:04

Hughes:

And that was what was firing the acquisitions?

03-00:54:08

Lucas:

Yes, and you only need one CFO; there's not two CFOs, so you have the operating economies of scale. And it worked just like the textbooks said it would, and it was amazing. We've been doing this, as I say, for a long time, so there's nothing new as far as "consolidation" goes. So, there's the advantage of scale. It's happened in the car industry, it's happened in the chemical industry, it happens in the steel industry. There's nothing unique about it. So there's been a quite a number of acquisitions in this area, Silicon Valley, because? Maturity.

03-00:55:00

Hughes:

Ah, it makes sense.

03-00:55:04

Lucas:

Yes. Nothing very complicated about it. And so there's nothing magical about it. It does lead to more economic conglomerations and to, of course, some mistakes too. No question about that. So it's a natural business evolutionary step, so there's nothing magical.

03-00:55:36

Hughes:

Give me an idea of what might go wrong—that the selling pattern that you envisioned doesn't materialize?

03-00:55:46

Lucas:

We go back to people. If you buy a hollow company, [if] the people who made the company, like PeopleSoft, the technologists, the software engineers, et cetera, if they all leave, you've bought an empty bag. You don't have anything to cross-sell, up-sell. You've just got a bunch of overhead. Am I getting through?

03-00:56:21

Hughes:

Yes, I see.

03-00:56:23

Lucas:

The culture has to be compatible and things like that. So it's not automatic, and there's many examples of acquisitions that have failed. But I would suggest one of the key ones is incompatibility of the key people.



03-00:56:49

Hughes: We'd better stop for a minute [for a tape change].

03-00:56:54

Lucas: Okay. We're stopping. But did you get that?

03-00:56:57

Hughes: Yes, I did get that. Culture actually was going to be one of my questions. Am I driving you nuts with my naïve questions?

03-00:57:07

Lucas: No, no! They're good questions. They're not naïve.

[End Audio File 3]

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04-00:00:02

Hughes: All right. So we're on the second tape. I think I probably know the answer to the question of what you consider your greatest strength, but I'd still like you to say it.

04-00:00:20

Lucas: Well, I'm open. And there are lots of things I don't know, particularly when it comes to technology, et cetera. So I cannot say to you in one word sort of thing. But as I've said before, I think the most important thing is I invest in people, and I try to help people achieve the objective. And that's the beginning and the end.

04-00:00:52

Hughes: Yes, that's what I thought you were going to say.

04-00:00:53

Lucas: Yes, I know it is. [laughter]

04-00:00:55

Hughes: I do get the theme!

04-00:00:58

Lucas: Very simple.

04-00:00:59

Hughes: Well, you, I think facetiously, said you didn't want to talk about failures. But I think it would be instructive if you picked one that might be illustrative of how things can go wrong.

04-00:01:18

Lucas: Okay. We try to excise those from our minds because if we thought about them too much, we wouldn't be able to go forward. My gracious! Well, we

had this one venture—I even forget the name of it. It was in patient medical records. And this maybe was ten, fifteen years ago. And Kaiser Health [Plan] participated with us, probably \$100 million went into it, and I don't know, \$10 [million]-\$15 [million] of our money, and it was a total failure. Some technicians from San Diego were involved, and a good friend of mine was a leader in it from the venture capital side.

Why was it a failure? We were trying to change people's way of doing something, and that's really tough—particularly when they're as arrogant as the doctors. I was just over having my eyes checked by the head of ophthalmology at Stanford, and she was complaining about her medical records. She couldn't find my medical records. But they had a committee chasing this, and I said, "You should be on the committee. Because this is really important." But the medical record problem has *not* been solved, and it's very difficult. However, I think it will be solved because the doctors have become more technically literate.

04-00:02:56

Hughes: I thought Kaiser had everything online.

Lucas: This was pre. I don't know what their situation is exactly. But to get a medical record, it takes everybody, all the participants—the nurses, the docs, the institution, the patient—all have to play a part. But we were too early.

04-00:03:23

Hughes: Yes, but you go back to the people. It's still people.

04-00:03:28

Lucas: Yes, oh of course.

04-00:03:37

Norton: We have a Kaiser series of interviews, and there is some discussion of this whole thing in that series.

04-00:03:42

Lucas: I think the company was up here. I've talked to the Kaiser head of IT; they're major customers of Oracle. We've chuckled about it, but we've all made mistakes. Medical records are a real problem. President Obama is planning to have the government spend a lot of money in this area, and I'm very hopeful because it's very important. We thought it was important then, and we still think it's important, but it's tough.

04-00:04:24

Hughes: You act more independently than I picture most venture capitalists operating. What does that mean in terms of your relationships with those venture capitalists when you're in a deal together? Or does it make any difference whatsoever?

- 04-00:04:53  
Lucas: I have a lot of good friends in venture capital. It's not a question of arrogance or superiority or anything like that on my part. It's just that this is the way I like to practice. And as I say, I've been with many of them as co-investors. We've had differences of opinion, but they've all worked out satisfactorily, I mean good, so I'm not being cagey about it.
- 04-00:05:35  
Hughes: I'm sure your record of success has a lot to do with it too. How can you argue with success?
- 04-00:05:43  
Lucas: Yes, well.
- 04-00:05:45  
Hughes: Well, shall we move to the larger context? Do you care to say anything about changes at the Washington level that might have had direct impact on what you were doing? We mentioned Sarbanes-Oxley, and you said you'd already been doing that.
- 04-00:06:05  
Lucas: It's incidental.
- 04-00:06:09  
Hughes: There were things [federal legislation] happening in the late seventies that freed up pension money. Did you care?
- 04-00:06:16  
Lucas: That doesn't affect me [pause to think]. To the extent there's a viable financial system—we were close to not being very viable here. That's the only thing that would impact what we do.
- 04-00:06:40  
Hughes: You put that in the past.
- 04-00:06:45  
Lucas: Yes! America is through the most troublesome period, and we are on the way up. It still is not apparent from the numbers, but we can see the way out of this morass.
- 04-00:07:03  
Hughes: What are you looking at if not the numbers?
- 04-00:07:06  
Lucas: Well, I'm looking at the numbers, but they always speak different things to different people.
- 04-00:07:12  
Hughes: [chuckling] That's another theme!

04-00:07:16

Lucas:

I'm not an economist, but we just had this summit meeting at the Stanford Institute for Economic Policy Research, in which we start at 8:00 and we go till like 9:00 at night. And 500 people and some great economists—and it was really thrilling. We had Condi Rice start off the day, and it was marvelous. Some tears trickled down my face. I was truly thrilled. She was a friend. I knew her before she went to Washington. It was just a wonderful, wonderful inspirational talk on how she's interested in children and education and all these things. It was just wonderful.

But then we got into the hardcore economic finance topics, and we had a number of discussions. One session was Abby Joseph Cohen, from Goldman Sachs; she has been their guru in stock picking, and Dr. Michael [J.] Boskin, who happens to be a good friend of mine. He was chairman of the Counsel of Economic Advisors for the elder Bush, and he's very bright. They really got into it. And then concluding was the chairman of Wells Fargo, Dick Kovacevich, who was quite outspoken and said he wished he'd never taken money from the government. And he didn't want any control [by] the government of his bank, et cetera. It was great to hear. They're going to pay off the U. S. Government loan as soon as they can, which is great and appropriate.

So you know, listening and reading beforehand and subsequently—the economy had some very serious problems. We had 1 percent interest for way too long a period of time, and we had a goal for our country started by President Clinton, continued by President Bush: everybody should have a home, literally. And as a result, and Freddie Mac and Fannie Mae, et cetera, too many people bought homes they couldn't afford. And so there was a natural increase in demand, which shot prices up, and many people, unfortunately, that shouldn't have bought homes. They had mortgages which were not going to be paid off. And these executives defaulted mortgages mainly in our system, as well as the rest of the world, and these are really toxic assets. Yesterday, we finally got [Timothy] Geithner's plan on how to, hopefully, get these bad mortgages out of the banking system and off to the side so the banks can go about their job of lending.

But this was a very traumatic period: the banks stopped lending, and it was a crisis. So that's why I spoke in the past tense. We know what the problem is; we're doing something about it; we will solve it if we haven't solved it.

The stimulus is debatable, et cetera, and so I won't get into that. But there's going to be adequate stimulus, and so the economy will recover—human instincts sort of thing. If you don't know what the problem is, you can't solve it. But when you know what the problem is, even if it's a big problem, a difficult problem, it will be done. We've got some great minds working on it, and we're making great progress, so that's why I put it in the past tense.

I didn't know anything about this mortgage business. I'm just shocked at what happened—the mortgages that shouldn't be given to the people, the falsification, all that stuff. It is a disaster.

04-00:12:20

Hughes: What about the due diligence and social responsibility you talked about?

04-00:12:25

Lucas: The whole thing was a terrible mistake. The motive was good, but the execution was poor.

04-00:12:27

Hughes: I couldn't help thinking as you were talking about how important you felt it to keep the books right and also to be responsible to society. That's not what we've been seeing, is it?

04-00:12:41

Lucas: No. It's very sad. The powers that be were complicit. The government in its various arms was complicit. But I'm very optimistic.

04-00:13:05

Hughes: Yes, you sound that. But I think that's your nature.

04-00:13:09

Lucas: Oh yes, it is my nature. [laughter]

04-00:13:11

Hughes: I would like your thoughts on this particular region, Northern California and specifically Silicon Valley, being the background against which much of venture capital has happened in this country.

04-00:13:44

Lucas: Oh yes, that's a subject that I'm fond of talking about. I come from Southern California; I come from Ontario. And my brother got degrees at Berkeley; his undergraduate at Davis, his master's and his doctor's at UCLA, he started at the Max Planck Institute in Berlin. He instantly became the number two guy at Jet Propulsion Lab at Caltech. I mean to say, some of the smartest people that we've had in technology have come from Caltech. I don't want people to be confused that we think we're special in California. And of course, CMU [Carnegie Mellon University], MIT, up in Boston, and others are quite competent.

California is a great place to live. I don't think anybody can disagree with that. So it's easy to recruit people to work here. And we have, this is my view, the Spanish heritage. That's a welcoming sort of heritage, and we were brought up that way, Californians were. So I think we assimilate others naturally, easily, don't even think twice about it. That's my impression. It hasn't come up, but where you come from, really, or where we're going to have the operations—we're very flexible. As you know, we now have, many of our

more people-intensive businesses are in India and China. They've gotten more people and they are less expensive so we naturally look that direction.

And then we've been very fortunate to have great universities right here, such as Berkeley and Stanford. And we do have a different way of looking at technology. Like at the universities, it's not the ideas—they're not owned by the university, they're owned by the individuals. Now the university may get royalties, et cetera, depending on the arrangement. I'm saying this as opposed to some Eastern schools that are not as open.

04-00:17:13

Hughes: Have you seen that yourself?

04-00:17:14

Lucas: Oh yes. And more willing to try. Like at National [Semiconductor] we copied what Sperry Rand was doing. The guys came from Sperry Rand, and our doors got locked because we cheated. We came out here and came across some engineers who wanted to make new semiconductors with different technology, and we supported them, and we developed an outstanding company! Isn't it amazing? And the people came from all over; from Europe, Israel, Eastern United States, China—a lot of Chinese scientists have contributed a great deal. It's an open society.

04-00:18:18

Hughes: It's another melting pot, a technological melting pot!

04-00:18:22

Lucas: Yes, it is. There's not the prejudice—I've not seen the prejudices. And I certainly hope I don't practice them of any kind, because who's to say who's better and who's not. We try to get the best.

We had some great leaders. I was fortunate enough to know both Dave Packard and Bill Hewlett. And HP is a great role model, of course, like Stanford, et cetera. But they were great. Ethical, hard-working, cutting-edge, quality, high-profit margins.

I touched on something that's, I think, kind of interesting. I come from Southern California, obviously, and there *is* a difference: we had more the aerospace industry in Southern California, more government-supported, fixed profits and less risk—and did a wonderful job—the space vehicles and the employers, all that sort of thing. But up here it is typically proprietary, cutting-edge, high-profit-margin products. So I think that the very fundamentals up here were of a different character.

04-00:19:52

Hughes: That's an interesting observation. I hadn't heard that before. And more room, I would think, for venture capital investment.

- 04-00:20:03  
Lucas: More opportunities, not room, but more opportunities. Absolutely because—
- 04-00:20:05  
Hughes: Yes, well, I'm thinking that the government was funding JPL and places like that.
- 04-00:20:12  
Lucas: Yes. Tracor was government. We did a lot of work for the government, so you can make money working, obviously, for the government. But here we get proprietary. And it just, of course, boomed. With Dr. [William B.] Shockley coming out here, bringing his seven or eight other engineers from Bell Labs, just discovering a new way of making semiconductors.
- 04-00:20:46  
Hughes: Once the ball gets rolling, to use a bad cliché, then other bright minds that are similarly oriented are attracted. So it's almost as though once you get the magnetism going, it's going to take on a life of its own]. And then you've got all of these other things in the environment, the research universities, and the beautiful climate.
- 04-00:21:15  
Lucas: And plenty of room, physically, *physically*. So what is it that we didn't have? We had everything to offer. We had a great country, we have a free enterprise system, and we're a great part of a great country. I won't say we're the best part.
- 04-00:21:40  
Hughes: Arguably one of the most entrepreneurial.
- 04-00:21:43  
Lucas: But see that was what brought the people in—society was supporting the entrepreneur. See, it's the people, and this was attractive. Now, I had a place up at Jackson Hole, a wonderful place, but it's kind of hard to live year round. It's kind of hard to move around three or four months of the year.
- 04-00:22:09  
Hughes: We've got five minutes. Please compare the second center of venture capital, namely that around Boston, Cambridge, route 128, all that. How is it or is it not different, culturally or however you want to phrase it, from what you experienced in Silicon Valley?
- 04-00:22:39  
Lucas: Well, as I told you earlier, I was involved with a number of companies in both places. One is, the Boston area has a relatively much more rigid social structure. If you didn't sign the Declaration of Independence, you're nobody. My forbears came over from Europe, and we raised Belgian horses in Iowa, for goodness sakes, and then came out here, and there was land, and we tilled the land. So it's more open. Easier to develop new things.

I have some wonderful friends back there, and I love it, and I have great admiration for their institutions and the cities and their culture, et cetera. That holds them back! We had nothing. There was no culture to be changed. It was open, fresh air, and make what you can of it. And fortunately, we had some people that came before me who just have done wonders.

04-00:24:00

Hughes: What about tolerance for failure?

04-00:24:17

Lucas: I don't detect that being different. I think it's more the social structure. It wasn't the thing to do. The thing to do here is to start a company, right? That's what these kids are doing, this Internet stuff. I don't have a clue what they're doing, but that's the thing to do.

04-00:25:13

Hughes: It used to be that you went into your father's company.

04-00:25:15

Lucas: And they had great companies and they're great people. Here we just had a wide-open opportunity. We had everything. We got the money from the East; the brains from the world would come here, right? And it's a great place to live. What more do you want? We've got it all! That's called California. So we hope it stays that way.

04-00:25:59

Hughes: I think we should probably stop there.

04-00:26:01

Lucas: Great. Thank you. It's been fun talking to you, Sally,

04-00:26:04

Hughes: I can't tell you how much I've enjoyed learning from you.

04-00:26:08

Lucas: Oh geez! Some people would really question your sanity if you say things like that.

[End of Interview]