Regional Oral History Office
The Bancroft Library

University of California
Berkeley, California

FRANKLIN PITCHER "PITCH" JOHNSON

BAY AREA VENTURE CAPITALISTS:
SHAPING THE ECONOMIC AND BUSINESS LANDSCAPE

Interviews conducted by
Sally Smith Hughes
in 2008

Since 1954 the Regional Oral History Office has been interviewing leading participants in or well-placed witnesses to major events in the development of Northern California, the West, and the nation. Oral History is a method of collecting historical information through tape-recorded interviews between a narrator with firsthand knowledge of historically significant events and a well-informed interviewer, with the goal of preserving substantive additions to the historical record. The tape recording is transcribed, lightly edited for continuity and clarity, and reviewed by the interviewee. The corrected manuscript is bound with photographs and illustrative materials and placed in The Bancroft Library at the University of California, Berkeley, and in other research collections for scholarly use. Because it is primary material, oral history is not intended to present the final, verified, or complete narrative of events. It is a spoken account, offered by the interviewee in response to questioning, and as such it is reflective, partisan, deeply involved, and irreplaceable.

****

It is recommended that this oral history be cited as follows:

Franklin P. Johnson, “Bay Area Venture Capitalists: Shaping the Economic and Business Landscape” conducted by Sally Smith Hughes in 2008, Regional Oral History Office, The Bancroft Library, University of California, Berkeley, 2009.

Franklin Pitcher “Pitch” Johnson

Pitch Johnson

Mr. Franklin Pitcher ("Pitch") Johnson was co-founder in 1962 of Draper and Johnson Investment Company, venture capital company, and became an independent venture capitalist in 1965 as the founder of Asset Management Company. Asset Management Company has made over 250 venture investments during its more than 43 years of operation. These have included Amgen, Applied Bio Systems, Applied Micro Circuits, Conductus, Hybritech, IDEC Pharmaceuticals, Octel, Qume, Red Brick Systems, Remedy, Sierra Semiconductor, Tandem Computer, Teradyne and Verity. He was a director of many of those companies and is presently a director of three private companies, and a public investment fund operating in eastern Europe.

He is also a past director of the National Venture Capital Association, a past president of the Western Association of Venture Capitalists, and was a trustee of the Foothill-De Anza Community College District for 12 years. He also taught a class in entrepreneurship and venture capital at the Stanford Graduate School of Business for 12 years and is still active on the faculty there. He has served as an advisor to several eastern European countries since 1990 in the area of entrepreneurship and privatization, and has helped form venture funds in several countries. He is active in educational and cultural affairs and served as chairman of the board of San Francisco Opera from 1999-2008. Pitch has a BS in Mechanical Engineering from Stanford University and an MBA from the Harvard Business School.

Discursive Table of Contents—Franklin P. Johnson

Interview #1: May 28, 2008

Interview #1: May 28, 2008
Begin Audio File Johnson 1 05-28-2008.wav

01-00:00:00
Johnson: [adjusting his clothing] Remember that guy in that movie who sat on his coat? The one where they said, "I'm mad as hell and I'm not going to take it any more." There was a news commentator in there. They were teaching that when you sit at the desk, like an anchorperson, you sit on your coattails so that it pulls your coat down. All right. I'm ready!

01-00:00:22
Hughes: [chuckling] Well, you mentioned as we were talking before the recording that your family goes way back to the 1600s.

01-00:00:31
Johnson: It goes back to primeval times, actually!

01-00:00:34
Hughes: Yes, well, true. In this country, I should have said.

01-00:00:38
Johnson: This guy John Johnson came over, I don't know quite why, religion, I don't know what, or opportunity, but he came to New England, to Ipswich in 1635, so I think I'm fourteen generations later. I'm very proud of that family, not for the usual reasons—because they were artisans and workmen and the kind of people that built the country. They later on became bankers, and stuff like that, in smaller towns and small cities like Decatur, Illinois. There are dozens, hundreds of families like this, came early, worked the fields, worked at carpentry and built the country, both literally and figuratively. It's nothing, except I have pride in it. It doesn't affect my own life very much. It gives me acceptability when I go to a dinner in New England once in a while, that's about it.

01-00:01:30
Hughes: [chuckling] Where did they come from?

01-00:01:33
Johnson: They came from a place called Herne Hill in Kent. I visited there, a little town, it isn't much bigger than it was in 1635—has about three pubs and three churches and about, I don't know, 1500 people. Even clay pipes from those old days were still—I dug some out of the dirt. So that town isn't changed much.

01-00:01:58
Hughes: Well, skipping through time, I know from my research that you were born in Illinois.

01-00:02:09
Johnson: I was born in Quincy, Illinois.

01-00:02:10
Hughes: Yes, and how had the family gotten there?

01-00:02:14
Johnson: Well, how that happened is—my dad's from St. Louis, my mother's from Quincy, although she was born in Indian Territory in a place called Muskogee, Okalahoma. So the short version of my parents is my mother was born in Muskogee, which was then Indian Territory in 1903; my dad in 1901 in St. Louis. They both went to the university. Mother later moved to Quincy—and went to the University of Illinois and met my dad there. My dad was a major track star, a hurdler with the Olympic team of 1924, if you remember the *Chariots of Fire* movie. He was on that team.

So I grew up, and he became a track and field coach. He went to Drake University to start with after being an assistant at Illinois in 1928, and I was born shortly after that. But my grandfather was a doctor so my mother went back to Quincy about the time I was about to arrive—I think to save money to tell you the truth! [chuckling] So I grew up, until I was twelve in 1940, in Des Moines and became aware, like all kids, that there was a track team and then there's other sports teams. And I learned there's a university, and then I learned there are businessmen—so you burrow outwards from your background. So track and field—I was born into it , and I've followed it closely ever since.

01-00:03:47
Hughes: You were a runner.

01-00:03:49
Johnson: I was a Stanford track athlete. I sort of assumed since my dad was an Olympic athlete I'd be that good, but I wasn't. I was a nationally-ranked 400-meter runner, 440-yard runner, but didn't make it to the Olympics.

01-00:04:03
Hughes: Was that a disappointment to your father?

01-00:04:07
Johnson: He never expressed it. In 1940 he came to Stanford to be the coach, but by the time I went to Stanford he had left Stanford after the war and was doing other things. So my coach was a fine man, but not my dad. My dad always emphasized grades and studies and other things. He never emphasized—he knew very well, it turned out, that I wanted to run and I did run. He came to my meets and always watched, not all of them but many of them. I don't think he was disappointed, in most ways, because I did have a good academic career at Stanford. The thing that was so good about being on the track team, I didn't have to pay any tuition. I had a scholarship. Our family means were modest enough so that was a huge help to my parents. I what they call "hashed," which is like working waiting tables and stuff, but the combination of some money from home and my scholarship and my work, I got through Stanford

with only had one semester where I had to borrow money from the university. I was studying mechanical engineering.

01-00:05:27
Hughes: Now why mechanical engineering?

01-00:05:30
Johnson: Well, when I went to Palo Alto High School, we had a really superb physics teacher there named Henry Martin. Everyone has this story in his or her life, had some great teacher that really influenced you, gave you understanding about something. I really felt at the high school level I understood physics. At the same time, that was when the A-bomb was going off and Robert Oppenheimer, who later became [the subject of] an opera, I might add, was famous. But I became interested in the physical sciences and loved math anyway.

When I went to Stanford, I decided I'd be a physics major, and it took me only a couple of years to decide that I wasn't Robert Oppenheimer and I wasn't Einstein. I was a good but not top-level physicist type of person. By then I'd met a friend of my dad's who was a superintendent of a steel mill, and I began to think—at some point it strikes you—I've got to have a job some day. So I switched to engineering, figuring that somehow that that could lead to some active employment, because I didn't really think that I would be a successful academic physicist—and I wouldn't have been, I don't think.

I did well in my engineering courses, and so I had a nice balance, I thought, between my academic life and my fraternity life. It was a wonderfully meaningful experience to be in my fraternity house. It was the home away from home. It's the first time you leave home—and you don't have to be in a fraternity to have this experience. I did—a bunch of brothers that I'm close to these days! So the third part of it was, I'd say, the social side of it, with a small s for sure. And then being on the track team and the effort that went into that. Some rewards from winning some good races. I had a good national-level success, not international, so that was satisfying but frustrating too because I wanted to do better.

I graduated from Stanford in 1950, and without going through all the stories of it, I got into Harvard Business School.

01-00:08:02
Hughes: Now why business school?

01-00:08:05
Johnson: Well, at that point another thing happened in my life. As I studied engineering and did design work and met a number of guys from all over the country whose fathers were doing different things, or families, and some guys were businessmen, some people I knew well were—so I began to realize that I really hadn't thought much about the business world. It wasn't part of my

childhood. My mom was an English teacher and my dad was a coach. They were respectful of—they weren't anti-business—they just weren't that businesslike. Then I began to meet people who were. My first thought was to be a ranger and to be a forest service type of guy. But I decided not to do that leap. I was thinking about going to Oregon State which I could do. They had a good track team in those days—it doesn't have one now—and could do that and study forestry. But then I saw in my many summers in the mountains, which I did hiking, I saw the rangers had to pick up a lot of garbage, so I decided that wasn't going to be what I wanted to do. What I didn't know—every profession, you have to pick up some garbage! [laughter]

01-00:09:16
Hughes: You learned that!

01-00:09:19
Johnson: I learned that. But anyway, I switched to engineering, and then I began to get the idea of why don't I make a decent salary and make some money? And that never was part of—I don't know how to explain it, but our family had a good life. We were never poor but the orientation was not to—

01-00:09:36
Hughes: To make money.

01-00:09:37
Johnson: Was not money. Business school seemed like the way. Then I began to realize that production interested me, being a production executive. Making things interested me. I spent a summer working in a steel mill, and I just like that atmosphere of the smoke and the flames. It seemed glamorous to me. A lot of guys found consulting and investment banking glamorous. But [I liked] being with those kind of people that worked hard, and I loved exercise anyway. I thought well, gee, if I can find a job where I can do both, have a pathway to get promoted *and* to do physical work and to be with those kinds of people that worked in the mills which are mostly superb men in almost every case. So I switched to engineering. I had switched to engineering before that, but then I realized that I wanted to go to business school because I realized that that would open up other horizons and [I would] learn about other things.

So the two eye openers, I would say, that occurred to me from a technology-oriented high school era—leaving athletics aside for the time; that was just an extra thing—were the courses they made you take, Western Civ. and those things. What a drag, I thought, to study all these old guys in Italy and all that stuff. It turned out, of course, as practically everyone says, it opened up the rest of my life later! [chuckling] So I loved that—I didn't like it when I took it, but I did well with it. To an engineer it almost seems like soft stuff. Then I took some other courses, and naturally English and all that, so Stanford was good about making the engineers have a broader education. It was very, very wise of them.

You also had to take engineering accounting—you didn’t have to take it but it was offered, and engineering economics you had to take. So as an engineer at Stanford, no matter whether it was electrical or mechanical or civil [engineering], which were the three main branches in those days, or industrial, you had a sort of an economic and non-technology side to your engineering training that was very helpful later.

01-00:11:50
Hughes: Now was that unusual in engineering schools at that time?

01-00:11:54
Johnson: I can’t answer that. I don’t know, but I think it was unusual. Dean Terman was our dean, Frederick [E.] Terman, whose father was a very famous psychologist, I might add.

01-00:12:06
Hughes: Right.

01-00:12:07
Johnson: [He] had a broad view of education, and so he was quite insistent on having topflight technological instruction in math. *But* he supported fully the university’s requirement that engineers had to take Western Civilization and English and other stuff. So that was a good part of going to Stanford.

Then the idea of going to business school—I didn’t get in at first because when I interviewed for the business school, I told the interviewer, whose name was Saltonstall by the way—he was some relation to the old Saltonstalls—he said, “What is it you really want to do with your career?” I said, “I don’t know.” It was a very honest answer, “But I want to go to business school because I’d like to learn some other facets of things I can do with my life beyond being an engineer.” It was exactly the truth. Wrong. [chuckling] So I got a nice letter from them saying, “The interviewer liked blah, blah, blah, but no, you can’t get in because you don’t seem to be focused enough on what you want to do.”

Then I went back to Washington, DC to run in the national AAV track and field meet. I jumped on an airplane and went up to see the admissions officer at Harvard. I didn’t exactly pound on his desk, I said, “Are you kidding? I got top grades, I’m a nationally-ranked athlete, and as far as doing the classroom work, I’m the kind of guy you want around here.” Sort of—what’s the matter with you? I didn’t quite say it that way but that was my tone.

I scrambled around and tried to get people to write letters for me to say they felt [Harvard] should have let me in. One of my fraternity brother’s girlfriend’s father was a prominent guy, so I went out and interviewed him and he helped me. But in the end, they let me in. Lewis [B.] Ward was the admissions director, so when I got in in the fall I went to see him and I said thank you. He said, “Well, you were very convincing when you came up here!

We do look for drive and desire. That's a pretty important part of it. So you showed the fact you really wanted to come here. Just do me a favor—don't tell other people how it worked, will you? I'll have every guy up here pounding on my desk." It was kind of an example that if you stay after things and you're persistent and you have zeal and desire, it shows through and you can do things.

I don't know that I learned a lesson, because I think I was that way to start with. I wasn't one of the top students, but I was a good student at business school and graduated okay, and then I went in the air force. I had these broadening experiences: from an athletics-oriented kid who liked math and science in high school to somebody who had stuck with the technology side of it but had the breadth of a Stanford education. They do it differently now, but I'm sure they have an emphasis on breadth still. Then broadening my business ideas by going to business school, [where] I did do what I hoped [to do]. I learned a lot about finance; I learned a lot about other things. A lot of guys wanted to go into consulting and investment banking, perfectly important professions for our society. But I still stuck with my engineering [orientation] and I got a job. I went in the air force because it was the Korean War and became a maintenance officer.

01-00:16:07
Hughes: Well, don't go there quite yet.

01-00:16:09
Johnson: Okay. I should wait for the questions.

01-00:16:17
Hughes: I happen to know that you took a course from Georges [F.] Doriot.

01-00:16:17
Johnson: I did, yes.

01-00:16:18
Hughes: And he being the name that he is, I'd be interested in hearing your impressions of him and the way he taught his course.

01-00:16:27
Johnson: Well, the course was called manufacturing and I took it because it had that name.

01-00:16:31
Hughes: But not because you knew of him?

01-00:16:34
Johnson: I knew about him as the founder of American Research and Development [Corporation], which was very much a pioneer venture firm, but I didn't know anything about venture capital. It had been named in the early forties, by a professor—I believe his name was [George] Elton Mayo, who coined the term—

01-00:16:54
Hughes: What was his connection?

01-00:16:59
Johnson: I don't know. I know that he's credited with inventing the name. I now know from books I read later that people were doing deals and backing ventures way back in the nineteenth century. There's a terrific book called, *The Visible Hand: [The Managerial Revolution in American Business]*, which described—

01-00:17:16
Hughes: Oh yes—[Alfred Dupont] Chandler.

01-00:17:17
Johnson: Exactly. Everybody reads a few books that give them insights, and that book was a very important book to me, not so much that I realized how business organizations began to change marketplaces, because I realized what was going on back as soon as technology began to become— Well, technology has always been there, but new technologies: oil drilling, steel making, and those things created business opportunities, although I read that book much later, I might add.

01-00:17:45
Hughes: I've read that in those very early days, it was usually the very wealthy families that were doing the investment. Is that what Chandler says as well?

01-00:17:56
Johnson: That's right, yes. When I first heard about it, the Rockefeller family—Laurance Rockefeller himself did investments, Eastern Airlines and some other things. There was another family or two whose names I can't recall right now—

01-00:18:13
Hughes: Well, the Whitneys were—

01-00:18:15
Johnson: The Whitneys were doing that, yes. There were three or four families of means, and they backed businesses, not necessarily small businesses, but I didn't know much about that when I enrolled in the course. I took the courses we had to take the first year: marketing, finance, and administrative practices, which is kind of a human relations course, and other stuff. So I had the fundamental tools that they wanted every first-year student to have. Second [year], you could branch out, and surprisingly enough, I took some finance courses just because they were interesting. I've always liked numbers so they were pretty numbery.

01-00:18:57
Hughes: All these courses that you were taking, did they actually help you later on?

01-00:19:05
Johnson: Much later on, much later on, Yes.

01-00:19:09
Hughes: Well, go back to Doriot's course, though.

01-00:19:12
Johnson: Okay. The good part is he was very devoted to his students. He cared a lot about students. He was a man you could go see and talk to. That was true of most of the professors, but Georges Doriot cared about that. And his manufacturing course was not a course about making anything; it was a course about his ideas about business and his philosophies. Some of it was just plain baloney, like [imitating Doriot's French accent] "Never trust a man who wears a bow tie." He thought that bow ties were a symbol of some sort of frivolous or not standard behavior, so I think he didn't want people to be different from others.

Then he said, "Remember there's a great tape recorder going all the time," which is fairly true. So what he was saying is, "Behave yourself, because if you're going to cut corners, you can't." So I think as a moral leader he was very strong and that was good. In fact, it was vital. I don't remember there being much discussion directly about ethics at the business school, but indirectly very much so and in the courses. But I think that course could have been condensed into about five sessions, because he would ramble on an on. I don't want to sound like I didn't respect him, because I did. I respected his ethical standards; I respected his caring about the students, but a lot of what he said to me sounded like baloney, and much of it was.

I remember one incident in which he said, "When you go to a new town," I won't imitate his accent because that's too cheap, but I'll say what he said and that is, "When you go to a new town and you want to get known and meet people, start your job and then when some prominent man dies, write the widow a letter and say that while you didn't know her husband, you know how important he was to the town." He said, "Almost surely she'll write you back and that gives you a chance then to meet people of substance in the community." I was offended. I hate it now, I hated it then. I thought it was some of the worst advice you could possibly get, and here's this man who is deeply ethical himself. There's no question about that; he's demonstrated it in many ways—to give some advice like that which was a little too pragmatic for me or for many of my classmates. We marveled at that, and as you can see, I still remember every word of that advice. It was *terrible* advice!

But most of the class was about working hard, achieving goals, setting goals—setting goals and achieving goals and about behaving yourself. And he gave that in different ways, but he did throw a little baloney in there because he was a human being. I had other professors, I felt, that did a much better job of preparing me with things I didn't know.

01-00:22:36
Hughes: Why does Doriot's name stand out to such a degree?

01-00:22:42
Johnson: Because he taught so many guys for so long, and I think many people feel differently from the way I do. They believe that his guidance and what he said was important and gave them insight into the way the world and business works that they wouldn't have had without him—and that's true. He understood the subtle side of it, the politics of business, the behavioral part of it, the getting to be known and making your way—and this great tape recorder, it's true. All the Harvard Business School guys you talk to will have taken that course and they're going to have different views about it. I have a mixed review that comes out plus because of the ethical guidance and his deep personal interest in the students.

01-00:23:40
Hughes: Yes, well, that's a great credit to him.

01-00:23:44
Johnson: I think so, I think so. He's remembered well there, and he also started the first venture capital company I ever heard of, American Research and Development.

01-00:23:53
Hughes: When you were there?

01-00:24:00
Johnson: My class was '52. I think he started it along about the time we were there, maybe before '52. I don't know that though. But I don't remember ever talking to him about it or people talking about venture capital at all when I was in school. It just didn't—the name didn't come up. I learned later that the term had been invented by Elton Mayo, if that's the correct name, in the early forties, middle forties.

01-00:24:28
Hughes: So Doriot wasn't talking to you about risk investment.

01-00:24:30
Johnson: No. He didn't talk about investments at all, very much. He gave examples of people who'd succeeded, why he thought they succeeded. I remember there was a woman that invented Pepperidge Farm bread that he had come speak. Margaret Rudkin? [chuckling] It doesn't make any difference. I can't remember what I learned yesterday—sometimes I can remember what I learned fifty years ago, though! But anyway, she told about getting her company going. He used guest speakers some, not every time. She was very effective because she had started—that was an entrepreneurial [business]. Doriot talked about starting a business though her. My memory doesn't bring up much talking about entrepreneurship, though, separate from careers, which is a little bit different subject.

01-00:25:18
Hughes: And then as you said, it was the Korean War.

01-00:25:24
Johnson: I got out in ’52 and by then I had met my wife, which is always a diversion.

01-00:25:34
Hughes: [chuckling] You said that she was a Vassar graduate.

01-00:25:38
Johnson: She was a Vassar girl; she got out in ’51. She had spent one year at Stanford so she met some guys. She met a guy on the track team who gave me her name. [chuckling] So when I went back east I looked her up in New York, and she was finishing up at Vassar, and so we dated quite a bit during that period. I had postponed my military obligations. I got deferments, to make a long story short, in order to finish school. Then when school was over I had the duty to and actually looked forward to—I got a direct commission in the air force as a maintenance officer.

In one way I made a mistake. I should have volunteered to be a squadron maintenance officer and gone to Korea and served. I didn’t have the eyes to be a pilot at that time in my life. I still don’t have the eyes, but I’m a pilot because civil pilots don’t have to have the same eyes. So I didn’t sign up for flight training and I would have, I think. I decided I wanted to get a job in the air force that would be something like a business job. It was one of those kind of decisions that efficient young MBAs make. So I worked in different depots around the United States, after my training, organizing production lines and being kind of an industrial engineer—that’s what they hired. They hired, I think, it was sixty graduates from our class that were in the air force at the same time.

01-00:27:06
Hughes: Really!

01-00:27:06
Johnson: They called it Operation Harvard Second Lieutenants. I didn’t go into the supply side; I went into the maintenance side.

01-00:27:16
Hughes: Because you were an engineer?

01-00:27:18
Johnson: Oh I don’t know. That’s what I asked for and that’s what I got. Now the reason it wasn’t a mistake—from a life’s point of view it would have been great to go on to Korea and been part of a squadron and keep the guys flying, but because I was stateside and began to keep on seeing this wonderful young woman. We got married just before I got out of the air force, so I think my life had its course, very important part, because I did stay stateside. If I’d gone to Korean for two years, something else would have happened, so my life would be completely different.

But I did stay here. I didn't fight anybody or ever have a combat job. I did do some interesting work organizing overhaul lines and modification projects. I even did the analysis for a project, and my boss classified it top secret and I only had a secret clearance. So I said, "Well, I can't even read my own report, right?" He said, "All it means is I have to store it in my safe." I had some wonderful bosses in the air force, guys I worked for. That was my first job, really, out of school. I had these summer jobs where I was doing just everyday work, and then after that I went to work in the steel plant.

01-00:28:43
Hughes: Well, one question before you leave the—

01-00:28:47
Johnson: I'm racing along!

01-00:28:49
Hughes: —the air force. Is that the origin of your love of planes?

01-00:28:55
Johnson: I really loved airplanes even in high school. I remember our physics teacher, the same guy I was talking about, said, "Somebody wants to give some people some rides, in an airplane, and if you sign up right after class we can take someone." Well, I didn't make it. I didn't sign up fast enough, so I remember not getting that airplane ride, although I'd had some anyway. But I was interested in planes all along. Certainly when I got into the air force I realized the pilots run the air force. I think it's still true. They try to make careers for everybody else, and they do have good careers, but the air force is about flying. It was then. Now it's more missile men, but it was about flying then. So I hitched—I got rides for test flights and went up in airplanes a lot whenever I could get somebody to take me up. So I became really interested in airplanes. The answer to you question is yes. My time in the air force gave me a love of flying and airplanes that I might not have had otherwise.

01-00:29:58
Hughes: Now the steel mill—how did that happen?

01-00:30:03
Johnson: My time in the air force was good, but I had interviewed in the steel company at the business school. The vice president of sales came around, a guy named Jack Smith. I said, "I'm very interested in working in the steel industry, but I don't want to be a salesman. I want to have a job in the mill." Because by then I'd worked in the summers at Kaiser Steel.

01-00:30:30
Hughes: Oh, it's right here.

01-00:30:32
Johnson: No, Kaiser Steel is in southern California. Right here in that sense.The whole thing appealed to me, the kind of work, and I knew that while many of my friends had gone into other downtown-type of jobs—that just wasn't for me.

01-00:30:51
Hughes: When you say it appealed to you, you mean in the getting down to the nitty-gritty and actually doing something.

01-00:30:58
Johnson: Yes. On the wall, there's a picture of an open-hearth shop and a first helper walking up to a furnace. And on my desk there, there's the last ingot as I became a foreman and made steel there. The last ingot I made is sitting on my desk there.

Inland Steel had written me a letter while I was in the air force saying, "We'd love you to come see us when you get out." They have a little tickler file, so I got this letter from them about two months before I got out, and a friend of my father's was also the production—I think it was general manager of the mill—so that helped too. But whatever. I went to them, interviewed them. I went down to Birmingham, interviewed in an airplane overhaul company to get a job too, and I decided for the long term the steel mill job was what I wanted to do, even though I knew a lot about the other job to start with.

So Inland Steel took me in, and I was there within two weeks of the day we were married. We had a nice little company house near the mill, a very nice rent, and I began to work. In the first couple of years I just did hourly jobs. It was a complicated deal because I didn't join the union, but the union let me work an hourly job because they liked the idea, so I worked alongside of the various jobs without taking anybody's place. It was just a deal they had with the union.

01-00:32:29
Hughes: Oh, and that's what they like about it?

01-00:32:32
Johnson: To get the young guys trained. If they were going to make foreman they wanted them to be able to do the work. The company wanted it, and I think the men wanted to see that if you're going to be a foreman someday, although that wasn't overt. My first superintendent said to me, the main job, he said, "Is to get to know the men. We've had other college boys in here." I didn't say much about Harvard Business School. It was in my record, but not in my discussion with them. He said, "The main thing you've got to do is learn to know the men. So I want you to go out there and I want you to work hard and show them you can do the work, and I want you to take the time to get to know them." Best advice you could hand me—just great.

01-00:33:16
Hughes: This was Jack Smith?

01-00:33:17
Johnson: No, Jack Smith was the vice president of sales. Oh no, it's another world in the steel—the sales guys. No, my first superintendent was named George

Lawton, but it doesn't make any difference. He's one of those heart of gold type of guys who really cared about his people. Anyway, he takes this young guy in and he puts me on the floor. I worked in the labor gang; I worked in the pit where they pour the steel, and finally they put me up on the floor where the steel was made. I worked on the different furnaces, and I learned the third helpers do the work around the furnace, second helper takes care of the back of the furnace, and the first helper runs the furnace. And over time I did all those jobs alongside of these guys and learned them.

I think one of the most exciting moments I ever had was when guy named Smokey Timm, a first helper who was sort of a big, almost typical guy but clearly a leader of the others too, even though he ran his own furnace, he said, "Hey kid, why don't you have a cup of coffee with me?" I could have hugged him! [chuckling] It was a moment of acceptance and it meant so much to me.

But then after about three years of filling in the summers as a fill-in foreman in the scrap yard. An open shop hearth partly is a scrap yard. There's a hot metal mixer where the molten iron comes, there's the furnaces, there's the pouring pit, and the auxiliaries that service all that. I trained in all those places and then finally, the culminating experience, after being a fill-in foreman and actually being a foreman in the scrap yard and in the pit, I became an assistant melter.

The melter had a group of six furnaces, and his job as a foreman job, is to work with the men. I won't go through all the details of steelmaking, it doesn't even exist now in the same way—but you determine when the furnaces need to be charged, you look at the furnaces, make sure they're in good shape, you get them charged up with scrap iron, the scrap iron would be melted, then you pour in the hot metal which is molten iron. Then you'd decide when the heat had to be tapped. There was an assistant melter who works with the foreman, but when there's two furnaces at the same time, the melter will often tell [the assistant], "You go tap number 38." So you take a sample ingot and check the chemistry, you do a lot of things; you learn finger knowledge and you learn the business of making steel in an open-hearth furnace.

So finally, when the melter was going on vacation, when I first did it they put somebody else in over me, but finally I got to be *the* melter. I got to be the foreman, and the men were pretty accepting, but I hadn't spent those twenty years that they had.

01-00:36:24
Hughes: So you were unusual and kind of skipping over some of the time and experience that most people had?

01-00:36:32
Johnson: Yes. Their plan for me, if there was any, was to be a foreman for a while. It was quite an exciting moment for me the first time I walked on the floor in charge of all six furnaces under me, with the men working there with the cranes and the hot metal and the charging cars and all that. That was really the first time in my life where somebody said, "Here's a major job for you to do." And you can really screw up in that job. Steel can melt its way through the bottom of the furnace. You can make a mistake and have a whole ladleful of steel that doesn't meet the specifications, is really not worth much.

01-00:37:23
Hughes: Did you like that challenge?

01-00:37:25
Johnson: Oh I *loved* it, Yes. In fact, I really like that work as much as anything I've ever done, partly because the people were so terrific, and partly because like any young man or woman for the first time somebody saying, "We believe in you. You can do this." And I remember when the quality records came in, my non-applied heats percentage was as good as the old time pros. It wasn't better, by the way, but it was as good as. Those are called non-aps, non-applied heats. So I just remembered the excitement and thrill of being able to do that work at a level comparable to the old-timers.

01-00:38:11
Hughes: Now had you gotten to that level just because of experience and observation? Or did somehow your previous education give you a jump?

01-00:38:24
Johnson: Well, the business school didn't give me a jump, but I think being an engineer did—and I think they were pushing me along.

01-00:38:31
Hughes: So they saw something in you.

01-00:38:34
Johnson: They hired me for that purpose. Oh I don't know, there's many reasons for it—among them was the fact that this friend of my dad was the mill superintendent many levels up, and I wouldn't be surprised if he said, "If the guy can do it—

01-00:38:56
Hughes: Let him.

01-00:38:57
Johnson: But I don't think he would have ever said, "If he can't do it," because it's too dangerous. It's physically dangerous. If you don't take care of yourself and the people around you, people get hurt. It's physically dangerous.

01-00:39:06
Hughes: How programmed was the danger issue?

01-00:39:18
Johnson: A lot of emphasis on safety.

01-00:39:19
Hughes: This is a dangerous job you'd better learn how to deal with it.

01-00:39:22
Johnson: No, it's not that at all. Inland Steel in the fifties had a training [program]—safety was a big part of the training. We had safety meetings with the men every week and they had big safety records. We had something called "Days Without a Lost-Time Accident." So we were told by the bosses to be tough on guys who violated the safety rules, and the unions, for the most part, backed you up. So if guys were doing things that were unsafe— There's a lot of little tricks like, don't step on a rail, step over a rail, because if you step on a rail your foot could slide out from under you.

I remember the most egregious thing that I heard of—I didn't see it myself—was a guy had gotten down into an ingot mold and gone to sleep. Before you pour the steel out of the ladle, you go in and inspect to see if there's any junk in there. I didn't do this personally, but I know it happened. A guy was checking the molds, the pit foreman was, and he saw a guy asleep because it's warm. You pour into warm molds. If they hadn't checked, that guy'd have had steel poured on him. These are fables—is it true? I didn't see it myself, but the guys who told me it, I believe it. But that would be so egregious that I think they gave him time off.

The union was pretty good about cooperating on disciplining people for safety. The company disciplined the supervisors also, and the supervisors were expected to observe the safety rules. So the answer to your question is, it's a dangerous environment, but with proper training we had very few lost-time accidents. Another thing though, behind the furnace where the steel comes out, the tapping site which the second helper runs, you get very, very hot. And you can have heat exhaustion, so two guys are always back there together. So when I was back there and I'd learned to dig out a tap hole. I learned how to put the charge in there and open up the furnace—and I did that with other guys. But I don't think you ever had people behind the furnace by themselves, because if you dropped, it's just too hot. Somebody had to pull you out of there. But there wasn't much of that. We took salt pills, or if you felt heat exhaustion, you just simply sat down if you felt faint.

01-00:42:09
Hughes: Do you think that the powers that be, whoever they were, were looking at you as you moved up through the hierarchy thinking that this is a potential upper-level executive?

01-00:42:24
Johnson: That was my view of myself. [laughter] I think they were looking for people to be superintendents, to run a department. There were three open-hearth

departments. I started off in number 2, and it was the big twenty-four furnace shop, and then I ended up in number 3 and became assistant superintendent. Earlier I became a general foreman, or the auxiliary general foreman, so I wasn't the foreman over the melters even though I'd been doing that; I was the foreman over the rest of the operation. And after five or six years I worked steady days. This was all shift work up until—I don't remember the exact number of years, but out of the eight years I spent there probably at least four or five were shift work.

After being a general foreman and going on steady days, then I became an assistant superintendent back at my old shop where I'd come from. They sort of moved you around so you get promoted, but you get promoted somewhere else. So I put on a coat and tie, and I had to eat lunch with the big bosses down in the headquarters. That was fun, but the farther I got from the furnaces, the more I realized that I wasn't having so much fun. And we got really good pay, by the way. So I never did earn less than my—well, I don't know, the guys on Wall Street maybe made more. It was a well-paid job. So we lived nicely in our company house. All four of our children were born during that period.

01-00:44:06
Hughes: Oh really. And how was your wife doing with steel mill life?

01-00:44:12
Johnson: Well, it was new for her because she was from New York. [chuckling] Her father was a major oil company executive, but he came from the oil fields. From his point of view, I was doing something completely understandable. I did what he did! He went in the oil fields; I went in the steel mills. He figured that's what young men do. Sometimes people would say to him, "Can't you get your son-in-law a better job?" He'd say, "He's doing what he wants to do!" He was a great guy and ran his company well, but I never wanted to go into the oil business. It just didn't appeal to me, so I didn't have that load of being in a father-in-law's business anyway.

But Cathie did well with it. She was pretty busy having babies and taking of them. Bill Draper worked for the same company.

01-00:45:11
Hughes: Yes, I was wondering when he was going to come into this work.

01-00:45:13
Johnson: We met him very early on. He had started in our business school class, but he went off in the infantry to Korea and was in the war, literally, for two years and then came back to business school, graduated two years later while I was in the military, so we both ended up at Inland Steel in the summer of 1954.

01-00:45:33
Hughes: By sheer coincidence, right?

01-00:45:36
Johnson: By coincidence, oh yes, we didn't even know each other. But we soon became acquainted, and Cathie and Phyllis became good friends. They lived five blocks away, and so we did lots of things together as a family. Their kids were more or less the same age of ours—Tim [Timothy C.] Draper. I remember seeing him when he came home from the hospital! So Bill and I became good friends. In 1958, his father and two other guys, three other guys really, had started a pioneer venture firm here called Draper, Gaither & Anderson. Bill never worked in the mill—he was a downtown type of guy, he was a salesman. He left his sales job, which he was good at, and joined his father in this pioneer venture firm. Since they were coming to Palo Alto where I came from in the first place, we came out shortly after they did on a vacation trip, and I introduced them to lots of our friends here who still are our friends. I think they would have got going nicely without us, but we at least introduced some people to whom we're still close.

Then about 1961, a lot of interesting stuff happens—I had an option on forty-two shares of stock at Inland. Not bad, but I noticed that the grandchildren of the founders of Inland and the associated company called Ryerson had something like 350,000 shares of stock. So I thought, wait a minute, this system isn't working as well as it could.

01-00:47:17
Hughes: [chuckling] Yes, not exactly democratic.

01-00:47:19
Johnson: No, no—very democratic! They deserved it, their parents founded the companies, but I thought it was better to be a founder and a shareholder than it is to be a worker, even though I was getting promoted and was paid well. I had nothing much in ownership.

01-00:47:31
Hughes: Now were stock options just a matter of course in big companies?

01-00:47:37
Johnson: Well, I know Inland gave out stock options to everybody in the management.

01-00:47:39
Hughes: And was that fairly commonplace?

01-00:47:44
Johnson: Don't know.

01-00:47:44
Hughes: Among companies?

01-00:47:46
Johnson: Oh I think companies were giving options, young companies. Inland was a very progressive company, a great place to work. Many years later I gave a talk in Chicago to some entrepreneurial conference, and I was saying, because

I was in Chicago, what a great place Inland was and how well they took care of the young guys and how well they trained us in safety—I went out and took metallurgical courses they paid for. They were very, very progressive, and they looked after their people. The big bosses came around the mills once in a while and you shook hands with them and felt like you were a big deal yourself.

So after the speech, a young man came up and said, “I’m Phil Block,” who was the grandson of one of the founders and he had worked at Inland. He said, “Thanks for saying that.” I think he was doing something else by then, and his dad had been a vice president of—maybe raw materials or something. It was a great place and Bill Draper would tell you the same. They just took very good care of their people.

Anyway, in 1961, by then I had heard about the small business investment companies [SBIC], and I’d heard about venture capital just from reading. I was able to save on my salary. Living modestly by most standards, we saved up some money, and I made some investments in Cessna aircraft, among others. I’d accumulated, not much, but a little bit of capital from savings. During a visit, Bill said, “Why don’t we start a small business investment company?” He wanted to get on his own as well, but was very close to his father, a wonderful man, by the way—William Draper, Jr. The father is junior and Bill is the third [III].

We were out on a normal vacation trip, for me home, even though my parents lived elsewhere. We sat around his kitchen table, like a lot of other entrepreneurs around here, and cooked up a small business investment company. Small business investment companies then—they still exist—were companies where if you put up $150,000, a group of guys or a person, they would lend you on what they called a debenture basis another 150,[000], so that would give you a minimum capital of $300,000. You just put that all up in capital. Then they would lend you four times that, at very low-interest rate, long-term loans, if you would restrict the investment you made to small business, which they defined for you: a certain number of employees, a certain sales level. One of the interesting things—it could not be in businesses against the public interest, such as produced or sold alcohol.

01-00:50:37
Hughes: This sounds like an effort by the government to promote small business.

01-00:50:43
Johnson: Exactly what it was. This is my own interpretation of it: the small business investment company was part of the Small Business Administration. Congress decided, I think in a bipartisan way we don’t see much of these days [chuckling], that too much business activity was in big companies only, and that we needed to have a more entrepreneurial society. A really wise decision.

01-00:51:18
Hughes: Who was behind that?

01-00:51:20
Johnson: Well, I don't know exactly. I think it came up during the Eisenhower administration, but you know, I don't know the time, but I know the Small Business Investment Act of '58 was passed.

01-00:51:37
Hughes: So it was very young when you were thinking about it.

01-00:51:41
Johnson: Very young, but we heard about—the SBIC program was one. So I scraped up my savings and borrowed some from my father-in-law who was very good about helping me in what was a big way then! And then Bill got his $75,000 together some way.

01-00:52:04
Hughes: He had been worker at Draper, Gaither—

01-00:52:07
Johnson: He had been working at Draper, Gaither from '58 until '61 when this happened.

01-00:52:12
Hughes: And so he'd made a little bit of money by then?

01-00:52:15
Johnson: He can tell you that. He saved up something, obviously! I borrowed $50,[000] and had saved up $25,[000]. I remember that much. I don't know what Bill did. It's his business. But we needed to get a license.

My congressman from Indiana was called Charles [A.] Halleck, who was the minority leader of the house. So this amazed me, but I called up his office and I took a few days off, went back to Washington, and got an appointment with my representative just by a phone call! It was just a constituent calling. Nobody called for me or nobody paved the way. So I went in his office and he said, "I'm glad to meet you." He was my congressman, but he was also minority [leader]. He had a pretty fancy office. Then he started picking up the phone—a great showman calling all these big-name guys, "What's happening with the SBIC [Small Business Investment Corporation] bill? When are we going to get the appropriations." And all that stuff. It was a matter of getting appropriations. I had nothing to do with what happened, but I did find out that the appropriation bill was on the way. I met with some SBA [Small Business Association] people. You had to get them to approve you as people who were running this, so they approved Bill and me.

01-00:53:56
Hughes: Was that just a matter of looking if you had enough money?

01-00:54:00
Johnson: No it wasn't. They checked you out. I presume they checked again—criminal background, education. They licensed a lot of people. I don't remember the number that started—let's say 150 SBICs were licensed over a few years' time. So that was '61, so by '62 we got our license. So with a heavy heart I left my job in the mills, and left these guys who'd brought me up from basically nowhere in terms of knowing anything. Bill and I started in 1962. We were delayed slightly because of the birth of our final child on August 6, 1962, so after that we moved on out here. I was familiar with the area anyway, so we started our SBIC September of 1962.

01-00:54:58
Hughes: Well, before you launch into that, give us a picture of the landscape in what we now call venture capital. And actually, we should stop and change the tape.

[End Audio File 1]

Begin Audio File Johnson 2 05-28-2008.wav

02-00:00:00
Hughes: What was going on in what we now call venture capital when you were beginning what became Draper and Johnson?

02-00:00:13
Johnson: Yes, sure. There's one thing I meant to mention specifically about my borrowing that $50,000, because it was so moving. I hope I can tell without breaking up. My father-in-law, whose name was Eugene Holman, who was a very prominent oil executive in what was called Standard Oil of New Jersey, which is called Exxon now, Exxon Mobil, became fatally ill. [overcome by emotion]. Oh, this is tough [chuckling]. I went to see him and just wish him well, and he said, "Don't forget. I'm lending you $50,000." This is a man on his death bed. [expels breath] I'm getting too old, I guess, for this! Well, I thought that was it. But then after he died, his assistant contacted me and said, "Mr. Holman's left this check." And it was—you know, it was just great.

02-00:01:16
Hughes: Yes, I can see why it has emotion around it.

02-00:01:19
Johnson: Very emotional. But the fact is I've been exposed to some great people, men and women in my life, and you can see the standards people have sometimes. [voice breaking] Let's take a little break, okay?

02-00:01:33
Hughes: All right.

02-00:01:38

Johnson: Well, first of all, there were very few venture firms when Bill and I got started in ’62. We had an informal group that met monthly for dinner. There were twelve of us, and it was called the Western Association of Small Business Investment Companies, which itself was the forerunner of the Western Association of Venture Capitalists. So for several months, probably a year or more, there were twelve—all guys, I might add, who had SBICs. One woman came to those meetings, she was an officer in the company. About half of them were doing real estate and other things that weren’t really—it’s certainly venture and it’s certainly capital, but it’s not what we think of technology and biotech and technically-oriented venture capital.

The characteristics of the business landscape—first of all, let me talk about the geographical landscape. These were still individual towns. When I was a kid, Palo Alto was a town. Mayfield, now called California Avenue, was a separate town. They were pretty much connected together. Mayfield actually became part of Palo Alto in 1938 or so, but Mountain View was separate, Sunnyvale was separate. Menlo Park was next door, but then Atherton was all big estates. It was a lot of green around here and not so many houses and almost no significant business structures other than the Hendy Iron Works and some industrial-type stuff. But it was orchards—orchards all over the place. I remember how exciting it was as a kid to go up in the springtime and ride our bicycles up in the hills and look out at the Santa Clara Valley. It was white—the prune and apricot trees. Even high school kids went up to look at it. Or before even high school. So the geography in the early sixties had changed a lot from what I’m telling you about as a kid, but it was still distinct towns, not just one megalopolis or megopolis, whatever the word is. It runs pretty much from San Francisco to San Jose now.

But as far as the venture business goes, the SBICs were, as I say, I’m pretty sure twelve is the approximate number if not the exact—that was the number of people who came to these dinners. It was characterized by the fact that you could get in any deal by calling. If you heard about a deal, you could call anybody up, and they’d let you in if you wanted to or were interested. Or if you were doing a deal, you typically asked another firm or two to participate with you—not always, but if someone had called. It was not as competitive or as difficult to get into deals that you heard about but weren’t ones you originated. Bill and I believed in being cooperative and working hard on the things, so if we were in somebody else’s deal we did more than our share of the work.

I can’t tell you the number of deals we did, but we put up our money, our $150,[000]. We borrowed the $150,[000] from the debenture basis and then we were limited to $60,000 per investment, which was one fifth of $300,000, which was our capital, half of which was provided by the government itself on a different basis. So first of all, the landscape was very little money looking for very few deals—just the opposite of what some people say it is now. But

Draper, Gaither & Anderson was in full-fledge running. It was a partnership in structure a lot like a modern venture partnership, with limited partners.

02-00:06:01
Hughes: Yes, now was that a new idea? The limited partnership?

02-00:06:05
Johnson: They started in ’58. The idea of a limited partnership, of course, was not new. It’s just a form of business that evolved a long time ago. But for doing investment firms as limited partnerships, I doubt it was new. I think investment firms and non-venture firms were structured that way back East, I’m sure, for a long time before that.

02-00:06:26
Hughes: We talked at the beginning about the well-to-do families, the Rockefellers and the Whitneys. Has venture capital or whatever you’re calling this industry now on the East Coast evolved so that their big companies may have a venture capital branch?

02-00:06:49
Johnson: No. That’s something lately. In the West it was a few SBICs and one public SBIC based in San Diego which was a pretty good size and then Draper, Gaither & Anderson, which was a private limited partner structure with a bunch of general partners and a bunch of associates, which was a training ground for many modern players, including Pete Bancroft, I might add. Then back East you had AR&D [American Research and Development]. The deal that was going in Boston then, you had the Rockefeller family and associates in New York, and the Whitneys, and then there’s a company called Bessemer Securities—the capital came from the development of the Bessemer Furnace, which was a predecessor of the open-hearth furnace that I worked on, and that family’s called Phipps. They had the Bessemer Securities, still in existence, which ran some of their family assets and put a lot of that into venture capital. And there were other families I can’t name, but I know there were.

02-00:08:03
Hughes: The banks didn’t have a venture capital branch?

02-00:08:07
Johnson: Banks, no—they got going pretty soon. I’d have to look at my chart to find out and tell you when. The Bank of America, then a different bird than it is now, local-oriented company of the Gianninis started a venture capital firm. I don’t think it was an SBIC. Then Hale Brothers, Prentiss Hale, started an early firm called Western Business Assistance which was an SBIC. But it wasn’t Hale Brothers, a branch of the retailing group. The Hale family hired a very extraordinary man called H.D. Thoreau, [Jr.] to run that for them. And he did well with it, and some others. I don’t remember the amount of capital in Draper, Gaither & Anderson, but it started off with about $5 million. So it wasn’t huge by modern standards. Probably it was up between $5 and $10 [million] at that point.

So there were deals around. Bill and I tried to figure out where things were going, and so we thought of lasers as one area that something might be going. We thought of different technologies, but mostly we just sort of sniffed around. One thing we did that was almost amusing—there were two streets in Palo Alto called Commercial and Industrial. Entrepreneurs were beginning to start companies on their own, and so we used to go down Commercial. We did one time, literally, go down there in our car and walk along, knock on the doors and say, "Want any money today?" kind of thing. It was really interesting because people would almost never wouldn't ask you in. It wasn't like knocking on a home asking if you want to buy any brushes—they were interested in talking about it even if they didn't want any money. We didn't quite say it in those terms. We said, "We're venture capitalists and we've heard about your company."

02-00:10:10
Hughes: So you were calling yourselves venture capitalists?

02-00:10:12
Johnson: Yes, we did—we called it Draper and Johnson Investment Company. I was the vice president, Bill was the president, and we set up our office at 780 Welch Road—that's over by the Stanford Hospital. We just started up sometime in September of '62, opened our office, and we just had to find deals. We talked to people. I think the first thing we did was called sitronic, which is two companies, actually, that did some electronic packaging and something called checkwares weighers. When you weigh packaged goods, you have to run them across a scale to see if they're underweight or not. Joe Julie was the entrepreneur and so we did that deal.

02-00:11:04
Hughes: Yes, and this was just by nosing around?

02-00:11:07
Johnson: Nosing around. Bill had been here since 1958, so he knew people. I didn't know anything other than I fancied myself as somebody who knew technology and understood physics and that sort of stuff.

02-00:11:24
Hughes: It sounds to me as though you had a pretty good start.

02-00:11:27
Johnson: Well, Bill was Mr. Outside. He's always been good at that, and I was Mr. Inside. I don't want to imply that I did more analysis than Bill did. I remember going on a PSA flight to L.A. for something or other. So Bill and I were sitting there together, and the stewardesses are all over Bill, and I could hardly get my lunch! [laughter] Bill's really good at that. I don't mean at flirting with the girls, I just meant he's a very externally-oriented guy and very good at it, I might add. Bill goes in a room, and by the time a half hour's up, he knows everybody in the room. I'm still talking to somebody in the corner.

02-00:12:13
Hughes: Did you know that about him?

02-00:12:15
Johnson: Well, I knew he was outward-directed. I knew, as a salesman he's not exactly shy. But I knew that, yes, and it was very helpful for us because he opened a lot of doors and knew people. He was careful about not overusing his Draper, Gaither contacts, but we did some deals. I don't remember if we did a deal with them or not. We did several deals. Another one was Behavioral Research Laboratories, which was a programmed learning company which would have been computerized ten years later. We did a deal that mixed water at a dam. If they want to get the right temperature of the water coming out they have to— The water higher is hotter and the water lower is colder, so we had a product to mix the water to get a certain temperature. It was a control system. I can't name them all, but there were several deals.

02-00:13:22
Hughes: In each of these cases, were you pulling upon this group of SBIC executives to chip in to the deals?

02-00:13:35
Johnson: No. Not at all. It wasn't like modern-day angels where they have a dinner and everybody decides to throw in a few bucks and back it. No, we didn't really talk about deals so much. We'd have dinner and we'd talk about the business, where it was going, dealing with the government. The SBA's pretty good, but there were a lot of forms and bureaucracy that you had to deal with, and we talked about that. But we did talk about deals. Somebody would say they're doing this, they're doing that. We'd talk about where things were going. Half of them weren't even interested in technology deals anyway. They were interested in real estate and that sort of stuff. So the only reason I mentioned the twelve is, I think that probably represented most of or a lot of the venture capitalists that were SBICs. There were others doing it, but the only one I really know of, other than individuals, some of which are shown on our chart were—Ed Heller was an individual doing it at the time—was Draper, Gaither & Anderson.

02-00:14:40
Hughes: Was there the term angels at that time?

02-00:14:44
Johnson: No. The word wasn't used. Because we were all small, we were doing brand new startups a lot of the time, but not always. We did startups and we did deals that were already underway. The idea of angels only took place much later, when individuals were backing companies to get them going. Probably not fair, but I always think of angels as putting money in and seeing what happens. I'm sure I could be criticized for saying that. Venture capitalists understand their job is to put money in the company and *work* with the company. So I always think of it as capital, consulting, and commitment, because entrepreneurs are very driven men and women, and they want

someone who understands the competitive and athletic zeal that they have. That's a lot of the success. It isn't only thinking your way through things and doing them right. You don't have to be an athlete, of course, you just have to have athletic attitudes about winning. This is as important to many entrepreneurs as making money. That's not always true, because it comes with it. Without the money they wouldn't do it, but without the competitive zeal they wouldn't make it. So it's kind of a combination.

02-00:16:12
Hughes: This idea of working with a company, working with the entrepreneur to build a company. Was that a new concept? It's not just a matter of putting your money in and seeing what happens.

02-00:16:29
Johnson: It wasn't really, because all I really know is a lot of it has to do historically with the book *The Visible Hand*. You can't start a steel mill small, you can't start an oil company small. People did make deals, people did invest, and people did guide companies. But I don't know much about the twenties and thirties—the thirties, not much was going on anyway, people were trying to feed their kids. But the twenties was boom times and a number of companies were started. I think they probably had people rather than institutions that backed companies.

There always were investment banks that were raising money for companies, but they were mostly not, I don't think, for new companies. But I know in the formation of U.S. Steel, they brought together Carnegie Steel, and I think the Henry Frick Coke Works—the Frick Companies, to form U.S. Steel. So those were two existing companies that were brought together along with capital from J.P. Morgan. That's big-time stuff, though, that's not entrepreneurial capital. But it was what was going on in those eras, and I'm sure without even checking it out there were dozens, many hundreds of small firms started. There are some still in existence that started back in the twenties, backed by flush times and individual backers who backed entrepreneurs and they built companies.

But the idea of angels—I'd never even heard of angels 'til about twenty years ago. And that's recent times.

02-00:18:07
Hughes: But that is an interesting distinction, isn't it? Both are financing, in many cases, startup companies. But a venture capitalist—and you should be saying this, not me—has a sustained role with the company that is being financed; that it's just not a matter of putting money in and letting it go.

02-00:18:29
Johnson: Well, I'd better be careful that it isn't just a venture capital conceit. Some angels are organized into groups. I don't know if they call the lead one an archangel or not, but they have leaders of these groups, and I think they follow

through. I think most angels are successful, operating businessmen who've made quite a bit of money, or women, and they put money into young companies. I can't imagine they just leave them alone. We've got five guys here [at Asset Management Company] plus me, all of whom work hard on the companies we invest in. We're not unusual, we're usual, actually. We do, heavily, startups or very young companies. Other firms that are bigger, they tend to do much later stage because they've got to put more money to work. So we're not worried about getting money to work, we're about finding things appropriate for our size.

But anyway, getting back to your original question, the landscape was very uncompetitive, very few people. In some ways, from the entrepreneur's point of view, it wasn't competitive. They were dealing with a cartel, not a spoken cartel or even a written cartel, but just that they didn't have any way to go shopping deals, because it was one monolithic—not quite monolithic—group of investors that they were dealing with.

But we did talk to each other a lot and share deals and of course bargain together on things.

02-00:20:16
Hughes: So the companies that you mentioned a few minutes back had several venture capitalists backing them?

02-00:20:27
Johnson: No. The Illumitronics was one we did by ourselves, although my own dad put a little bit and Bill's dad put a little bit in alongside, so it was only us. Behavioral Research Laboratories was two or three investors. I don't remember who. I think the others were individuals, by the way, not firms.

02-00:20:51
Hughes: Oh really.

02-00:20:52
Johnson: Yes. The deal that we did with the balancing the water, which didn't really succeed, was a couple three firms. So it was a mix. It was the very first year. I think January 2, 1963 was when we closed our first deal, having gone in business in September. And then on May 2, '63, I remember that because it was my birthday, we closed the Behavioral Research Labs, and that was our second deal. So we were not racing out with money. We did a deal in three months and then five months later we did another deal. And then in 1963 we probably did one or two more. Then—I could look them up, but I can't—we did about six or seven.

02-00:21:50
Hughes: What was your state of mind?

02-00:21:53
Johnson: Well, my state of mind was this is fun but I'd rather be a player than a coach. So I began to realize that what I really wanted to do, even though I liked working with Bill and he's an excellent guy to be a partner with—I wanted to buy a company and run it myself. So that was in the back of my mind although I liked working with these guys and helping them. I figured, gee, if I'm going to help them this much, I might as well run one! So in 1965, Sutter Hill offered us a very good price for our portfolio. I thought, here's my chance, because Bill could go over and be the major—along with Paul [M.] Wythes—the major figure in Sutter Hill, which was a real estate company that was getting into venture capital at that point. They wanted our portfolio to give them a good start, although I think they had an SBIC also, by the way.

02-00:22:54
Hughes: And so Paul Wythes was there?

02-00:22:56
Johnson: Paul Wythes was already there. We have a lot of fun kidding Paul about who founded Sutter Hill. After we sold our portfolio to them, then Bill joined Sutter Hill. He and Paul ran Sutter Hill, and they did a great job as we all know now.

I had a few hundred thousand bucks for the first time in my life, and I was trying to find the company to buy. And I looked around a bit. I ran into a little biotech instrumentation company up in Berkeley and I did that.

02-00:23:33
Hughes: What was it called?

02-00:23:34
Johnson: Chromatronix. And it had valves and fittings to use in chemistry and biochemistry.

02-00:23:48
Hughes: So this is mid-sixties that you're doing that?

02-00:23:52
Johnson: It is exactly '65. And so one thing that happened that turned out to be important later, because I was here and I had been a student in good standing when I left Stanford, I was able—you can enroll in courses later. I didn't know anything about molecular biology, so I took a course in molecular biology in 1964, or something, and met some really good scientists—it wasn't meeting them personally. But I heard about DNA and making proteins from the DNA and RNA process, and it opened my eyes to the fact that that could be a very important area.

02-00:24:42
Hughes: As early as the mid-sixties?

02-00:24:44
Johnson: That was 1964 I took that course.

02-00:24:47
Hughes: That's before recombinant DNA. Recombinant DNA doesn't come along until '72-'73.

02-00:25:06
Johnson: Could I have taken that course after? I thought I took it when Bill and I were together. I'll look it up. The first course I took over at Stanford was called partial differential equations—that interested me because I never did get it right in school—never did get it right, actually! Then I took a course in computers, the beginning computer course. Maybe that was when I was with Bill.

02-00:25:42
Hughes: I bet.

02-00:25:43
Johnson: Yes, and then a little later I went back and took the molecular biology course.

02-00:25:46
Hughes: From my knowledge of the history, that makes more sense.

02-00:25:50
Johnson: I took three courses there, because neither this computer [science] nor that type of genetics were in school when I was there. When did Watson and Crick publish?

02-00:26:13
Hughes: 1953. but that was the discovery of the structure of DNA. How to genetically engineer, how to manipulate DNA, came in the early '70s.

02-00:26:33
Johnson: Well, then I think that's too late, because Amgen was founded in 1980 and Genentech had to have been founded about 1975 or 6.

02-00:26:42
Hughes: Seventy-six.

02-00:26:43
Johnson: Yes. I think the ability to have a course about the structure of DNA occurred before that.

02-00:27:13
Hughes: Oh it could have. The science of DNA—

02-00:27:16
Johnson: —they didn't talk about how you'd manipulate it. I think they just talked about the Watson-Crick discoveries, and [Paul] Berg and [Arthur] Kornberg and [David] Korn came to our class and talked.

02-00:27:33
Hughes: Oh did they really!

02-00:27:34
Johnson: And Hogness talked. I think they talked about what you might do, but it sure opened my eyes. I remember working in the lab there, and we would find strains of bacteria that could thrive in tryptophan. But the idea that you take organisms which were not human and insert genes into them—we didn't do it, but the idea you could do it was certainly part of that course. So I can find out quickly when that was, but I'm going to take a guess it was 1964.

After we sold out to Sutter Hill and Bill went there, then I set up an office in my home and worked there. Well, that's for a later meeting, I think. But I think that course in computers probably opened my eyes to lots of things, especially that one. I wouldn't have gotten involved in Amgen, I don't think, which was very important to me without that and that was 1980. I remember that date very well.

02-00:28:55
Hughes: What got you interested in taking the molecular biology course was this investment in the Chromatronix?

02-00:29:03
Johnson: No, no. I think I did Chromatronix after that.

02-00:29:06
Hughes: Then, what moved you?

02-00:29:11
Johnson: The fact that I had empty spots in my education.

02-00:29:15
Hughes: I see.

02-00:29:16
Johnson: Computers didn't exist when I was in school. Partial differential equations did, but that was a separate issue. And then, molecular biology did not exist, but I was aware of it. I read the magazines and popular press. Sometimes I read something like *Science* or something like that. I'm sure what the motivation was—there are things going on I don't know about, and I want to know about computers, and I want to know about modern biology.

02-00:29:44
Hughes: Ultimately with the idea of maybe this is going to lead to a new area of investment?

02-00:29:52
Johnson: Yes, that's true, but I've always had this, maybe not healthy, conflict between what interests me just for the hell of it, and what might lead to business. I think it's been basically good, because I think the course in molecular

biology—I knew in general, without being specific about it, that taking that course would fill me in, fill a big gap in my knowledge that I didn't have. I'm sure in the back of my mind I was thinking, well, maybe this'll lead to something someday, or maybe it's just something exciting going on I need to know about. And the same thing was true of the computer course. That was much more obviously of commercial use.

02-00:30:38
Hughes: The fact that molecular biology would become a commercial gold mine was in the future.

02-00:30:51
Johnson: Yes, that's right. I remember talking to those guys that gave the course about when can this done? When could this possibly be done for human beings? They said, "A long way off." I remember that part, and I remember a guy talking at one of these local service clubs speaking to it. I happened to go to it. I asked him that question, and he said, "This is really theoretical stuff, but some day we'll be inserting genes into non-human organisms to make human proteins." But he said, "Some day."

02-00:31:44
Hughes: Was that course team taught by the Department of Biochemistry?

02-00:31:50
Johnson: No, it was taught by a guy named Dow [O.] Woodward, who was a young biology professor and, by that time, Don[ald] Kennedy, who much later became president [of Stanford], who was a biology professor and was a friend of mine. So we were talking about these issues as well. But Dow Woodward invited these leading guys on the front end of the research to speak in his class. But it was just fantastic for the undergraduates, which was most of the course, plus an old undergraduate taking an undergraduate course. They used to call it graduate at large, which I thought was a rather funny title.

02-00:32:43
Hughes: Well, you were in one of the hotbeds of molecular biology at the time.

02-00:32:47
Johnson: I didn't know it, though! [laughter] But without that course, I might have got involved anyway. Probably in another interview we'll talk about Brook Byers's time with me and how that worked out. I remember talking to Brook early on in 1972 when he first came with me, "We've got to stay alert to this. This is going to be some big deal." His roommate at that time was Bob Swanson.

02-00:33:11
Hughes: I know that!

02-00:33:13
Johnson: [chuckling] Why we didn't get involved—that's a little later than what we're talking about right now unless you want to leap to that.

02-00:33:19
Hughes: Well, Genentech was founded in1976. And we're still talking about the mid-sixties.

02-00:33:26
Johnson: Mid-sixties. So one thing in that decade—people began to wake up to venture capital. There were some successful things in the late-sixties—this dates back to my father-in-law. He had died by then, but I said to my mother-in-law, I'd like to meet Laurance Rockefeller. I don't do much of this in my life, but I sure did that time. She said, "Well, I'll give him a call." So the next time I was in New York, I forget why, maybe just a family visit, Laurance Rockefeller was nice enough to see me. It was about 4:30, and I said, "Well, gee, I really appreciate all the time you've given me." He was telling about how their family got going in venture capital and the deals they'd done. They had an office then called the Rockefeller Family and Associates.

I said, "Well, thank you very much." He said, "Well, what's your hurry?" [chuckling] I said, "Well, I think this half hour is a lot of your time." He said, "I'd like [you] to meet some of our people." So he took me and introduced me to Ted [H.] McCourtney and Peter [O.] Crisp and some other guys, and a guy named Charlie [Charles B.] Smith.

The important thing was I met these guys there, and so I did some deals with them after that. The first one was called Coherent Radiation then. It was a laser company, which I was sort of alert to from having—I didn't take a course in it, but I did learn some things about it back in the early sixties. Then there's another deal we did called BioSurface Technolog[ies], which developed ways of growing patches of your own skin, patches of your cartilage. We sold that to Genzyme and the products are on the market now. So that was two Rockefeller-related deals that I did do.

02-00:35:56
Hughes: And that was through Draper and Johnson?

02-00:35:58
Johnson: No, that was after Draper and Johnson. Draper and Johnson was sold and we paid off our government debt and we had some money left over. I forget, two or three hundred thousand bucks that I had then, never having had any capital, that I was going to buy a company [with]. It was like those ads for whiskey, you took one sip and then you took another sip and pretty soon you know. But I got going on my own, didn't have anybody working [for me]. I didn't hire Brook [Byers] until 1972, so this whole period from '65 to '72 I was just on my own.

We moved to Palo Alto in '68 from Atherton where we'd been living, and I set up an office and a woman came in every morning who was my assistant and helped me do things, set up a card table, actually. I didn't see a company I really wanted to buy, but I did see deals, because I was in the swim by then.

People were calling me, and Hale Brothers Associates, that I told you about earlier, they were looking at Chromatronix, so we did that together. That was a very early company—later on invented some of the first manual analysis of protein—sequenators they're called. They take proteins and break them down to the amino acids, and later on had a way of assembling proteins, and in a laborious inefficient way assembling nucleic acids.

02-00:37:38
Hughes: That early!

02-00:37:40
Johnson: That early—in the mid-late sixties. Another thing, we had a young assistant professor at Caltech who was our advisor called Lee Hood. [chuckling]

02-00:37:53
Hughes: Oh yes. [chuckling]

02-00:37:56
Johnson: But later on Mike [Michael W.] Hunkapiller, then later on, much later we did a deal called Applied Biosystems. I did it in our family partnership which we formed a little bit after that. So that's how I got involved with Lee. Applied Biosystems didn't take the technology from Chromatronix, but Chromatronix pioneered, in a very manual early way of tacking nucleic acids together to form short genes—it was just amazing.

02-00:38:26
Hughes: Yes, and that was the ultimate goal? To create artificial genes?

02-00:38:32
Johnson: The ultimate goal of that company was to make equipment to be used in— When I invested in it, and a guy named Dick Gundelfinger— It was interesting being in Berkeley in the early seventies and late sixties, because I went into the lab one time and everybody was wearing conical peasant-type hats and they were flying the American flag upside down. I couldn't stand it. I took the flag down, I put it right side up. And they said, "You're a fascist." I said, "No. As long as I'm chairman of the board, we're not flying the American flag upside down." It was an anti-Vietnam [protest]. I said, "You can wear any damn hats you want to and you can say what you want, but we're not going to—." They thought of me as this incredible right winger.

02-00:39:23
Hughes: You've got to fly the flag right.

02-00:39:27
Johnson: You're not going to disgrace our flag. It was a symbol of distress. I said, "You're not in distress." They said, "But the country is." It was a great Berkeley argument is what it was. Gundelfinger had a pretty good kid, a scientist, who was leading that little demonstration. I was in a big argument with the president, and I just said, "I can't stand it. I'm not going to have it." I didn't have the power to do much about it really except make noise. But that

was a distraction. That was one day, one visit. But basically they were trying to make what they called low dead-volume valves and then pulseless pumps. And they made chromatography systems. That was [what] the company's business was. This was just something that Dick did using Lee Hood's advice, I think. I don't think they really sold them. It wasn't the business. And then Spectra-Physics bought it from us. They wanted to get in that business, and they had been our rival in the laser business from Coherent, so I knew them. They bought the company and didn't do much with it.

02-00:40:57
Hughes: Does Moshe Alafi figure in any of this?

02-00:41:02
Johnson: Yes, Moshe became a good friend. He was part of Physics International which developed the physics that brought the halves of the A-bomb together. I met some of his colleagues in that, and we did a couple of investments together.

02-00:41:19
Hughes: Wasn't he was operating kind of the way you were?

02-00:41:24
Johnson: He did, yes.

02-00:41:25
Hughes: As a pretty independent agent.

02-00:41:27
Johnson: Yes, in those days and still, really, I'm different from other venture funds, you know. We don't have a lot of outside investors.

02-00:41:34
Hughes: Oh is that so?

02-00:41:37
Johnson: We're just my wife and my kids and Asset Management Partners. Then we formed a new fund in '04, and several of our families that knew us asked if they could be involved. Of course, we wanted to get a little more capital so we did that, and one Indian tribe. This is very modern history. One Indian tribe came in, suggested by some Asian Indian friends. It's a very interesting tribe back in Colorado called the South Utes. But that's '04, that's modern.

02-00:42:13
Hughes: Yes, we haven't gotten there yet.

02-00:42:15
Johnson: We haven't got there yet.

02-00:42:15
Hughes: But just to recapitulate, essentially it's always been family money?

02-00:42:27
Johnson: Yes. I’ll go through that history. It’s pretty easy. I didn’t have any money.I borrowed money from my father-in-law who made it available on his death bed, basically, after having promised it. I never had enough capital to talk about doing anything on my own. But I forget the number, let’s say $350,[000], something along in there, after we sold our portfolio and then paid off our debts to the government.

Then I took a trip to South America. In 1965 Cathie and I went and looked around. Her grandparents came from Argentina, so we went down and visited the distant cousins, second cousins of hers. They were Americans, but they had moved down there after the Civil War. Her grandfather came back, but a lot of them stayed down there. So we had a visit with them, and we went to Venezuela and Chile and Brazil, had a good visit. But anyway, I was gone about two months.

I had bought some—I forget what stocks I bought, I think it was some local company that did very well while I was gone, so I had another 100,000 bucks beyond what I started with, so that helped too. So then—then I began looking for a company to buy and that’s when I found Chromatronix and Coherent and that’s when I went to see Laurance Rockefeller. I don’t think I’d have done Coherent—Chromatronix I would have done without, but I think that connection through Mrs. Holman got me involved with their office and we did two or three deals together. Two I can name for sure.

But basically I was on my own and invested that capital. I don’t remember the exact time, but about 1970 I formed a family SBIC, another one, called Asset Management Capital Company. We liquidated that eventually, paid off the government and formed Asset Management Partners, back about, oh when Brook was there, actually, between ’72 and ’77.

I’m rambling along now, but I think that key area I established myself on my own occurred starting in 1965, having had a little capital for the first time in my life. It was a good feeling, actually. And so I did deals, and I had pretty good results from them, got very interested in biotechnology. Chromatronix was the first of the biotech-oriented deals. And then Bill [William K.] Bowes, [Jr.]—do you want to go on with that now?

02-00:45:35
Hughes: No, let’s not start on Amgen yet.

02-00:45:39
Johnson: Okay. That’s a long story.

02-00:45:40
Hughes: Yes, let’s save that for next time. Have you said enough about Moshe?

02-00:45:47
Johnson: Oh no. So I got to know Moshe very well. I'm trying to think of the deals we did together, but I'm pretty sure Chromatronix—

02-00:45:56
Hughes: Well, he was a principal in Cetus.

02-00:46:01
Johnson: In Cetus, but I did not do Cetus.

02-00:46:04
Hughes: Did you have a chance to do Cetus?

02-00:46:07
Johnson: No. I didn't hear about it. I think Bill Bowes did though.And I think Moshe and I talked more than we did, but I'm practically sure he was part of Chromatronix. I knew him well, saw him a lot. He has a fine son called Chris, who's a good guy.

02-00:46:34
Hughes: Yes, he has gone into venture capital, too.

02-00:46:36
Johnson: Yes, I know he has. We talked a lot about physics; we talked about lots of stuff. We were always friendly, and I admire and like Moshe. He was born in Iraq, by the way. The answer is I know him well and we did a deal or two together and Chromatronix was one, but I don't remember the other one. He's a good man; he's got good judgment about science, and he works hard.

02-00:47:09
Hughes: Why don't we stop with your assessment of what the SBIC program meant to venture capital, or what was to come.

02-00:47:25
Johnson: Well, first of all, it was a good concept. It was a result of good, bipartisan work in Congress. People thinking, for once, what's good for the country? What do we need? And people agreed that we needed some kind of a system so people could start their own businesses, and I could see why that would appeal to both sides of the House. If we just kept on like we were going, there would be nothing but big companies, and people working in big companies, not what the Congress, speaking for all of us, wanted.

The first group of SBICs, they didn't really have the rules right, and there was quite a bit of self-serving. There were people lending money to their in-laws and all that kind of stuff, and so they cleaned up. I will say this, the SBA is a pretty good outfit. They're run pretty well, and it was then, and as far as I know it's run pretty well now. So it's not one of those government agencies you throw up your hands and say, "Good God." But once they cleaned it up, then they were more strict about who was getting licenses. Bill and I were in the very first group with the Small Business Investment Act of '58 that created SBICs. We formed it in ’61 and then actually started business in ’62, so we weren’t in the first generation. I don’t remember whether they had cleaned it up by then or not, but we qualified and got our license.

Looking back on it, it resulted in two major things. The first one was it created an environment and a system so that people thought that having an entrepreneurial society was a good thing. This is a very general topic, but the idea that our nation wanted entrepreneurs, our nation wanted people to be able to start businesses and grow them, and it’s very hard to do that with bootstraps only, especially in technology. The second thing that happened was an accident. It created a cadre of people, of which Bill Draper and I are two members, who entered the venture capital business that way, and later on went into the present-day venture capital business which is entirely private. But of the two—they’re both important, because the venture capital business is an important part of the entrepreneurial system. Without venture capital, some companies would get going, but many would not. And many would not be able to grow because they wouldn’t get growth capital.

So I would say that you couldn’t argue that the SBIC program was not a success. It was a success because much of the flavor of America now is entrepreneurship, is about people starting companies, trying to make money, and trying to have that kind of success that comes with people who want to be independent and build their own lives. It’s not just money—a lot of it’s money—you couldn’t take the money out of it, but you couldn’t take the spirit out of it either. So that’s what the SBIC program gave us, and the taxpayers, as far as I know, it didn’t cost much. They got their money back. The loans that were lent—we borrowed money from the government in those days. Later on they changed it to guaranteeing bank loans. Now the government— I don’t even understand it now—but it gets part of the profits. The program is still going, but one or two people can’t do it now. You’ve got to have a group, I think it is, to do it. And I haven’t really checked it out. Bill Draper kept one in existence for a long time. I don’t know if he still has it or not, but as far as the original SBIC, those two things are what made it successful and it did work.

02-00:51:29

Hughes: A good place to stop, I think, for today.

Interview #2: June 25, 2008
Begin Audio File Johnson 3 06-25-2008.wav

03-00:00:02
Johnson: You just ask me a question. You let me know.

03-00:00:04
Hughes: Yes, I will ask you a question. Well, last time, Mr. Johnson—

03-00:00:11
Johnson: Won't you call me Pitch?

03-00:00:12
Hughes: Well, all right. I wanted to be formal on tape. [chuckling]

03-00:00:14
Johnson: No, no. Be normal. Mr. Johnson is my father, actually.

03-00:00:20
Hughes: All right, Pitch. We went through your early history, and you introduced Brook Byers, but we didn't get much further than that. So maybe you could pick up on that part of the history.

03-00:00:33
Johnson: Sure. Well, I can't give you the exact year I met Brook, but it was about 1971. I had been operating by myself. I worked in my own house, and my assistant, a woman, came in every day and set up a card table and answered the phone and took care of things. The workload got pretty heavy, and I wanted to have an assistant, somebody to work with me. I was a private investor; I had a little family partnership, and I did things just privately, although I had a family SBIC as well, which gave some leverage.

What I can't remember is who first mentioned Brook to me. He had worked for one of our portfolio companies. I'm sure it was Allen [D.] Calvin who was running that company called Behavioral Research Laboratories. But Brook had moved on to another job at that point, but Allen said that I should talk to Brook, it would be good. Brook, as I learned later, was a Georgia Tech engineer and a Stanford MBA, and so had some breadth of education that I liked. So we met a couple of times and, after talking to a couple of references that knew him, I decided he would be very good at our business. What a good decision that was! [chuckling]

03-00:02:12
Hughes: Right! Were you calling yourself a venture capitalist at that point?

03-00:02:18
Johnson: That's right. I was calling myself a venture capitalist ever since 1962 when Bill Draper and I started Draper and Johnson Investment Company, which we have covered. And then, in 1965 we sold our portfolio to Sutter Hill. Bill went

with Sutter Hill, and then I went on my own as an individual and with a family SBIC and a family partnership from ’65 on. I hired Brook in 1972. He came to work, we bought the house next door where we could work, so he had his own office. We worked together, and we looked at a lot of deals. I remember the first one that Brook did, I would say, most of the work on or a lot of the work on, was called Tandem Computers. Tom Perkins, whom I’d known long before that, had founded it within Kleiner & Perkins, and he wanted an outside investor to validate the deal to other investors. So Brook checked it out, went down and visited with Jim Treybig and did a fine job, and so we did invest in it and it worked out very nicely. It is, incidentally, how he met Tom Perkins.

03-00:03:36
Hughes: I looked at the videotape with all of you at the panel at the Computer History Museum.

03-00:03:47
Johnson: Yes, about five year ago.

03-00:03:48
Hughes: I remember Tom Perkins saying that first fund, which of course supported Tandem and Genentech and others, which did not do as well, was the largest fund in the world at that point.

03-00:04:05
Johnson: At $6 million?

03-00:04:06
Hughes: At $8 million.

03-00:04:07
Johnson: Eight million, Yes. It was. Well, Tom had to engage an investment banker to raise the money, actually, but it did well. Although I went on the board of Tandem, and I certainly participated in the check on them, Brook did a fine job of chasing down all the alleys and figuring out about the people, looking at the marketplace, evaluating the technology.

03-00:04:30
Hughes: Had you shown him how to do that?

03-00:04:32
Johnson: Well, yes, I showed him some things. On one hand, he denies this nowadays—I sort of threw him in the pool and let him swim. He could swim. On the other hand, he’d come back, we’d talk over—I think by questions and by asking him what things he’d found out. It wasn’t like, do this with your right hand, do this with your left hand. But we need to know these things. And I think there was some of that. He gives me a lot of credit nowadays for those years of being his mentor. As a matter of fact, in just the last few weeks we did an interview and a series of photographs for a magazine whose name I don’t know—it was a book about mentoring. He did me the great compliment

of naming me his mentor, so we had a bunch of pictures. It's one of those things where they take a hundred pictures, they'll use one.

But anyway, I didn't do active mentoring, like sitting him down and lecturing him sort of thing. We worked together, I asked the questions, and in the end he watched the process, in my case, of making the decision about investing in Tandem which was a very good decision. I went on the board and it worked out great as you know—as the world knows, not about my involvement but about Tandem. In fact, I still have some HP stock as a result of Tandem going into Compaq, going into HP in a very noisy merger of about five years ago.

Brook was a very hard worker. He worked a lot—not endlessly, but he really applied himself to his job, and he understood technology from his engineering training at a very fine engineering school, Georgia Tech, so that the technology issues were well within his grasp. He had a good sense of business and people. He liked Jimmy Treybig; he liked the team of people at Tandem, and so he sized them up pretty well. I went down there, obviously, myself a time or two. I don't remember exactly when that was, but it was fairly shortly after we got going, let's say a year or two.

We looked at lots of deals, turned down a lot of deals. But I think Brook's technical judgment, his judgment about people, and he has a very winning attitude. I think he was a high school half-miler, or something. Even though he wasn't a college athlete that I know of, he has an athletic mentality about winning and succeeding. He has that kind of drive that goes with successful entrepreneurs and venture capitalists. I can't remember all the deals we did. We did several others, Tandem being the outstanding one. After the end of five years Tom was expanding his organization so Brook said to me, "Why don't we form a partnership." I said, "I'll have to adopt you because it's a family partnership." So he left with my good wishes and went with Tom in 1977. I remember that pretty well. So it was a very good time, successful, we had a good relationship—still do for that matter.

He was actually Bob Swanson's roommate during a lot of that time. They both upgraded their roommates a lot! [laughter] So one reason we didn't do Genentech was interesting. I had taken a course in molecular biology at Stanford in the sixties, so I was sort of alert to the potential of it like oftentimes a course or two or a professor influences you. So when I heard that Swanson was starting to plan a biotech company that would do genetic engineering, I got quite interested. Swanson in their apartment was being quite closemouthed about what he was doing—as he should have been—so Brook said, "You know it would really make me sort of uncomfortable if we were bargaining with him and trying to get in his deal." I said, "Well, all right." But without that I would have never gotten involved in Amgen. So things turn out sometimes for their own reasons. Brook and Bob were quite close friends.

03-00:08:59
Hughes: Do you think that Swanson can be credited with getting Brook interested in the biological side of technology?

03-00:09:11
Johnson: I can’t credit him, but I don’t doubt it. I’m sure they talked about it. I’m sure as roommates they had a beer and talked about stuff like that.

03-00:09:21
Hughes: Oh, I think they were talking a lot.

03-00:09:23
Johnson: He was very well aware of the process of forming [Genentech]. But of course we looked at other technology deals—one was maturing at that point, called Chromatronix, which was a deal that made high-precision gear for chromatography as well as build a very early protein sequenator, and then even made a machine that manually could assemble nucleic acids into short oligonucleotides. But that was very primitive, and that became the same things we eventually did in Applied Biosystems, but we didn’t do that until 1980. Brook had been gone three years by the time I did Amgen and Applied Biosystems.

03-00:10:04
Hughes: So was that sequenator a predecessor of what came from Lee Hood eventually?

03-00:10:13
Johnson: Oh yes. Lee Hood was an assistant professor then, just a young guy, and he was advisor to Chromatronix which was in Berkeley. It was very much a Berkeley company. They were great young men that worked in that lab—they were just good Berkeley radical-type of guys. And I say “good” now because the whole thing was kind of funny, and they were fine technicians.

Dick Gundelfinger, the president, was a good solid guy—also a Berkeleyite in attitudes and so forth, but he worked pretty hard. Finally after quite a while we merged it with Spectra-Physics, but I made a lot of relationships for them because I was the only guy who had a coat and tie, so I had to go and do booth duty in some of the conventions. It was really very primitive in terms of venture capital. I also went back East and signed up Ken Reynan to be our rep. Ken Reynan turned out to be a pretty good factor in the related businesses later.

03-00:12:25
Hughes: Were you in any way unusual in looking at the biology-based technologies at this point?

03-00:12:34
Johnson: Well, when I was in school there wasn’t any computer. I graduated in 1950 from Stanford, in ’52 from Harvard Business School. So it was pretty non-computer—there really weren’t many computers although there were some

primitive ones. And genetic engineering, while I'm sure DNA was discovered along in those times, I really felt I needed to take a computer course, which I did take at Stanford, and I took this molecular biology course taught by a guy named Dow Woodward. It's just amazing. It isn't amazing—we all know education makes a huge difference. One course changed my life, basically. Because I don't know that I would have been so alert to Genentech or the whole area or especially to Amgen when it came along or to Applied Biosystems, which was formed the same year. But I'm sure my interest in biotechnology—I've done a whole series of good biotech companies over time—Chromatronix, Applied Biosystems, Amgen, Hybritech, and IDEC [Pharmaceuticals], and now one that I hope is going to be a great company called Novocell in the stem cell area. But I will have had over twenty years some terrific firms, and I don't think I would have started down that pathway if it hadn't been for that course I took at Stanford.

If you graduate from Stanford, then you can reenroll in undergraduate courses—they call you a graduate at large, which my wife found an amusing statement, seeing all the good looking young girls were in the classes. I took three. I took one course just for the heck of it, which did not have any application that I could think of and didn't turn out to be—in partial differential equations, because I never had covered that in my undergraduate days. It just interested me. But the other two were definitely trying to broaden my education to cover things that weren't there when I was in school.

03-00:14:55
Hughes: Which leads me to one of the questions that I had in mind: how important is it in considering an investment to know something about the technology?

03-00:15:23
Johnson: Well, for me it is because I like science and technology. Even in high school, and all that stuff, I just ate up the courses. I loved them, did pretty well, not always the top student, but I've just been fascinated by understanding the way things happen. So my interest in technology—I'm enough of a businessman to think about the economic side of it, but I find it stimulating, even now, to go and talk to some guy about something he's doing in his lab that is novel or can be of great use to people.

And I'm not alone, a lot of venture capitalists are like this. We really like the technology. I'm not saying we can perform it in the lab, but we can understand it at a level, but that's not the same. So actually, venture capitalists get good at discussing things with a knowledgeable air about them. [laughter]. But I delight a lot in technology, and I probably spend more time than would be the most absolutely businesslike use of my time—but who cares. It excites me!

So I had great fun in the early days of Amgen, talking to George [B.] Rathmann, whom we brought in as president.

03-00:16:36
Hughes: Well, start back further than that if you don't mind, because my understanding is that George Rathmann really wasn't the beginning of the story.

03-00:16:45
Johnson: He was not at the beginning. The Amgen story is something like this. I'll probably miss a name or two but— Bill Bowes was not with U.S. Venture Partners at that point; he was an independent private venture capitalist having been with Blyth & Company for years. I think by then he'd left Blyth, or at least he was making deals on his own. He had a guy he was co-investing with called Sam Alstetter, and if I have the story straight, and I may not, Sam Alstetter was on an airplane and met a guy who was a Stanford professor—his name is not coming to me right now.

But anyway, this guy talked to Sam about starting a company that would take advantage of the developments in genetic engineering to form a biotech company. Sam told Bill about it. Actually Sam and Bill formed a corporation in about May of 1980 called Applied Molecular Genetics. Bill Bowes had also created two other— You know how artists have a blue period? He had an applied period. He named Applied Biosystems, which started off as part of Amgen, actually, and then Applied Microcircuits, which I got involved with very early on as a non-healthcare deal. So those were three deals called "applied", all started out of the fertile mind of Bill Bowes, at least backed by his believing in those areas. Bob [Robert T.] Schimke is that guy's name that I couldn't think of a minute ago.

03-00:18:35
Hughes: Right.

03-00:18:35
Johnson: A pretty good guy I might add, a nice guy. But his father became terribly ill. I think he was actually an early shareholder, but he couldn't continue to be the chief scientist who ran the company. Then we did hire a guy, a scientist who had been a New York U. sprinter to come out and head up the organization of three or four people.

03-00:19:11
Hughes: Was that Winston Salser?

03-00:19:12.
Johnson: No, that was not Winston Salser. I should go to Winston Salser first, that's quite correct. Schimke knew Salser at UCLA, and so Bill went down to talk to Winston, and I did also a little later. Winston was the scientist around whom the company was actually formed when Bob Schimke couldn't do it.

03-00:19:38
Hughes: Of all the molecular biologists that are out there, why Winston Salser?

03-00:19:49
Johnson: I think your interview with Bill will tell you more than I can, but he met Winston Salser, and Winston agreed to be the forming scientist of the company. He had a good reputation and he was at a fine school, UCLA, so he was working in the field. We did, at that point, hire this guy—I remember him because he had been a sprinter for NYU, and he came in and was heading up the daily effort in the lab.But it was clear that he wasn't going to be the president and the CEO.

03-00:20:28
Hughes: I see.

03-00:20:28
Johnson: Abbott, the company Abbott, had given a leave [of absence] to George Rathmann, who was its chief scientist, to spend several months on sabbatical. He spent it in Winston Salser's lab, coming up to date on the then latest in biotechnology. So we met George in the course of that sabbatical. Winston, I think, suggested him to us. By then I was involved in it, a little after Bill—I couldn't give you the exact timing. They had formed it, and then a couple of months later I made a smallish investment with my family partnership and went on the board two or three months later, something like that. But there was nothing going on. They treat me like a founder, and in a way I was, although Bill's actually the founder and a very good man.

03-00:21:30
Hughes: And who else was putting money into it?

03-00:21:33
Johnson: Well, at that point it was just Sam Alstetter and Bill and our family partnership. But soon afterwards, George Rathmann came on board, so I think the next step is to talk about George Rathmann. I may be losing a fact or two because it is about thirty-eight years ago. George got interested in the company, and Bill and I talked to him. Finally, in a moment that's recreated over on my shelves over there—which we recreated later—George came and we asked to see him. He was up here. So we went in my back yard and sat in the back yard, and we asked George to join us—almost like asking someone to marry you. We asked George to join us, and he said well, he was interested, but he was pretty sure Joy wouldn't want to leave the North Shore of Chicago.

03-00:22:37
Hughes: And you were pretty much going on Winston Salser's recommendation? Or had you checked him?

03-00:22:44
Johnson: Well, no, Salser introduced us, he didn't recommend him—well, I guess he recommended him, but Bill and I were making our own judgment here.

03-00:22:49
Hughes: Had you done any background checking?

03-00:22:54
Johnson: Oh before that of course we did. We found out a lot about him. He'd been at 3M, we talked to people there. We talked to some people quietly at Abbott. We didn't want to blow his cover at Abbott. So no, we just didn't go on Winston's [introduction]—you don't know Bill and me! [laughter]

03-00:23:07
Hughes: Well, I'm trying to get at the process as well.

03-00:23:14
Johnson: We called—several phone calls to people, all of whom thought he was good. We had some side checks into Abbott, I don't remember with whom. We certainly talked to people—at 3M I'm almost sure it was. People had a lot of respect for his energy and his science and his leadership. Of course, we met with him a time or two, and we were very impressed by him too. So before we actually had the meeting where we asked him to marry us in my back yard, we had met him a couple of times before. His response was interesting. "I really am interested, but I'm not so sure Joy'd like to come out to live in California"—from the life with the family they had in the North Shore. I can't tell you the town—let's say Highland Park or something.

So we said right on the spot—bring Joy out here. We'll fly her out, we'll obviously pick up the tab for that, and do bring Joy out so she can see Ventura and Oxnard. The company was already located in Thousand Oaks, and we decided not to move it. So within a few weeks, a couple weeks, Joy came out and did love the beach at—was it Oxnard? It was Oxnard where they moved. There was a nice beach community there, and she was kind of fascinated by us, so then he accepted. We made an economic proposition, sort of a normal one, to bring somebody into a company. It was very late '80 that this happened. There's a historical date that I can't give you, so George came out, and I imagine he probably moved out in early '81, but he agreed to come.

I believe that Ray Baddour, from MIT, had been a co-investor. I skipped over Ray. I came in [as an investor] and I think Ray Baddour came in shortly after that.

03-00:25:17
Hughes: With his own personal funds?

03-00:25:20
Johnson: Just his own personal investment. These were small investments. When George came on board, the first thing we needed to do was to raise some money. We cooked up a venture capital offering of— There was a bit of an argument about whether we raise a little money and try to get to a milestone, then raise more money at a higher price. George was pretty insistent, and we agreed with him, to raise a larger amount of money. I think the number was $15 million or so.

03-00:26:12
Hughes: Yes, it was $15 million.

03-00:26:14
Johnson: You're straining my memory. But for the purposes of discussion, it's about the right amount. So at that point Abbott came in, because they thought George was pretty impressive, and Tosco, an oil company, I have no idea why. Oh, I know why they came in—because they thought we could develop something to eat up oil spills.

03-00:26:41
Hughes: I have a note about New Court partners.

03-00:26:45
Johnson: New Court [Securities Corporation] was a venture firm based in England—that was the street they were on, New Court, but they had a New York office. They came in and then Jim [James C.] Blair and his firm came in.

03-00:27:00
Hughes: Now how was this happening? Were you calling around and telling people about this opportunity? For example, how did New Court even know.

03-00:27:12
Johnson: I don't know exactly how New Court heard about it. It may be somebody Bill knew. I made a couple of calls myself. I think I might have approached Jim Blair. We were not looking for credit so much as money. [chuckling] So everybody made calls, and we got a bunch of people interested, but who else—am I leaving somebody out? Then some individuals, some friends of mine like Bill Edwards and John Bryan, just individual investors, came in at that point as well.

03-00:27:42
Hughes: Was it quite common in those days to have a number of very small investments?

03-00:27:52
Johnson: Investors?

03-00:27:53
Hughes: You keep saying that these were not large investments.

03-00:28:00
Johnson: I don't remember the amount, but the amount which Abbott put in, the amount which New Court put in, the amount which Jim Blair's company put in, those were hundreds of thousands.

03-00:28:13
Hughes: Yes, I see.

03-00:28:13
Johnson: I think my first investment was $60,000 if I remember right, and I put a little bit more in this next round.

03-00:28:22
Hughes: And was that kind of par for the course for you in those days?

03-00:28:26
Johnson: Well, first of all, deals were smaller then. That was a big financing to do $14-$15 million in 1980. But having been an investor in almost the first round, at the very opening of the company, later on that represented quite a bit of stock, still does. I wish I had these numbers better in mind, but the sense of it is that we then had a round of investors at a somewhat increased price which included the people I've mentioned and probably some I've not mentioned, like a guy from Chicago who came in then. Steve Lazarus. But anyway, we had this group that formed the basic board, and some of the people stayed on the board quite a while. Then Abbott put a guy on the board, a guy named Kirk Raab who later became president of Genentech in a roundabout way we go through.

03-00:29:39
Hughes: Right, exactly! All the connections are amazing.

03-00:29:43
Johnson: Steve Lazarus's firm came in early on, from Chicago. Steve stayed on the board for a long time. Steve was a very, very helpful director. He understood the business. Actually they all were. Baddour was a scientist and a good one. Bowes and I stimulated action, you might say. We had lots to do with picking the various CEOs over the years. We certainly picked George and then Gordon Binder. By the way, you should read Gordon Binder's book [*Science Lessons*].

03-00:30:22
Hughes: Oh I did. That's one reason I waited to talk to you again.

03-00:30:30
Johnson: I've only read about three chapters of it now.

03-00:30:31
Hughes: Well, one thing that I found interesting, and this actually came from a set of interviews I did with George Rathmann. He said that the original setup was that the scientific advisory board, which was a luminous board—

03-00:30:58
Johnson: Yes, it was.

03-00:31:00
Hughes: —was to report to the board of directors, and George said, "No way."

03-00:31:09
Johnson: Yes, I don’t remember that issue. It never did. George may have remembered some discussion about that, but I don’t think it was ever much of an argument that the scientific advisory should report to the board. It wouldn’t work. At first they reported to Winston Salser before George came, then they reported to [George]. But they were distinguished. I can’t name them all, but there was Norman Davidson from Caltech and a guy from Colorado—

03-00:31:43
Hughes: Oh, Caruthers.

03-00:31:44
Johnson: Marv [Marvin H.] Caruthers from Colorado and then a guy named [Eugene] Goldwasser from Chicago.

03-00:31:52
Hughes: Who became very important.

03-00:31:53
Johnson: Oh, yes, they all were. Except for Genentech, there must have been other little games in town, but we were the main place where they could use their expertise to really make things happen, and they did. They met often and George gave them terrific, stimulating leadership.

03-00:32:11
Hughes: Do you think that by then it was obvious to molecular scientists that the commercial aspects of the molecular sciences were going to take off, and take off not only scientifically and commercially, but in terms of generating personal wealth.

03-00:32:36
Johnson: I think you know, intuitively, personal wealth comes with success. But the idea of generating personal wealth as a primary objective was not in the fore—we knew it would happen. I don’t mean anybody was going to not want to make some money, but the interest level of all of us was to build a great company, do the things that were required to build a great company. Especially in biotech, you get so excited about what you can do to help people’s health, those things all put together.

Completely unrelated to this, I remember talking to Bill Hewlett one time. I had a long talk fishing one time, and he said, and I had him tell this to my class later, that when they started Hewlett-Packard, they were thinking about building a successful company. They were talking about good products, good marketing, scraping enough money together to grow and that sort of stuff. He said, “I wouldn’t say it never occurred to us, but that was not what we were doing. We were not deliberately creating wealth. We knew if we succeeded we’d make out fine.” I don’t think they ever thought about the size of that, but they concentrated on building a great company and the wealth resulted from that.

People who chase wealth directly, they get lost in short-term considerations and they don't do the underlying stuff, so the same thing was true there. I'm sure we all thought we'll be richly rewarded if we build a company that can serve patients well. That was not far from our minds. The objective was more of a competitive, building, creative kind of feeling. I'm not trying to be naïve about making money; I'm just saying that if you don't think of doing things right to build a great company, then that won't happen anyway. You might as well bear down on that. I don't ever remember having any of these guys I've just mentioned, say to himself or herself, "We're going to get rich if we do this right." Even though behind that you always know you'll at least do well. When you're building a company, who knows you're going to build a $13 billion company. That never occurred to me we'd do that; I just thought we'd build a really good company that would take advantage of genetic engineering and really do a lot for patients.

We had four projects that we thought we would do. I hope I can name them. One was something to eat up oils spills, the one Tosco was interested in. The other was chicken growth hormone. It turned out you couldn't do it in the gut so you had to inject 50,000 chickens a day or something, so that didn't seem too good. A third one was an acridine dye, some sort of dye, and the fourth one was EPO [Epogen or erythropoietin]. EPO was the one that worked. So we had four different projects, and we talked with investors about those. We talked to ourselves about them, and we pursued them all up to a little ways.

I remember one amusing— Very, very early, I was walking up the sidewalk toward the lab, and this horrible purple caterpillar with all kinds of things sticking out came walking, I thought, "Oh my God, they've done it!" [laughter] It just occurred to me briefly—they've created a monster, or something. It was going to be a butterfly later, I'm sure, but it looked pretty horrible at the time.

The way you keep score in our business, in the end, is what kind of profit you make, what kind of companies you build, and whether they become worth a lot more than you have in them. That's the score-keeping. But in the back of your mind or at least in the middle of your mind one of the purposes is to generate personal wealth, but you do it if you succeed.

03-00:36:52
Hughes: Right, so to summarize could I say—

03-00:36:55
Johnson: She's putting words in my mouth! [laughter]

03-00:36:59
Hughes: —that a cornerstone of your philosophy could be said to be that you build a good company and the money will follow.

03-00:37:09
Johnson: [pause] Yes. You concentrate on building a good company, which means getting the right people, having great products, marketing them well, having a good organization, and getting adequate financing in the thing to make it happen. And those are the immediate objectives, because if you don't achieve those things, the rest of it doesn't count. But the fact is, you do know that when you build a great company, you'll make money from your investment. So it isn't that you don't know that, it's just that you concentrate on the first things first. And the first things first is building the company. Lots of guys will tell you this. I'm not alone in this way.

03-00:37:53
Hughes: Yes, but is that maybe not happening quite so much nowadays? Is there more—the money comes first.

03-00:38:04
Johnson: I haven't heard that too much. I think that we've got to give some credit to Kleiner, Perkins, Caufield & Byers. They do very nicely those guys. But they've had a philosophy early on to not discuss their personal wealth, not talk about their big deals and all that stuff. And Tom Perkins himself started that, that's why it was so surprising in that TV interview he did when he began to talk about his own personal wealth. It wasn't very Kleiner, Perkins to do that! [chuckling]

03-00:38:43
Hughes: Yes, well, and his biography, his autobiography makes it pretty clear too.

03-00:38:48
Johnson: Yes, I read that too. So Tom, Tom was a very good venture capitalist. He's a good person to be a friend of. This last few years he's gotten excited about his own personal wealth and the things it can bring. But the things he did the best weren't generating wealth. The things he did the best were building some great companies, which he did concentrate on at the time.

03-00:39:10
Hughes: Well, he has made a big thing about being how he and Gene Kleiner were so very hands on in terms of managing their investments.

03-00:39:19
Johnson: Oh absolutely, they were. But now in his life, what is he—seventy-five and he's quite candid. I wouldn't say he's hiding any emotions, but he feels the need to honestly say that he is spending a lot of money on yachts and accoutrements of different kinds, and it surprised me, that's all. He's absolutely free to do what he wants and he's not a bad guy, but those interviews I don't think are doing him any favors.

03-00:40:04
Hughes: Well, how would you compare your management, your idea of working with a company's management to maybe what Kleiner and Perkins did.

03-00:40:15
Johnson: Very similar.

03-00:40:15
Hughes: Is it. And so—

03-00:40:17
Johnson: Brook surely picked [some of] that up here, that you're heavily involved. There are three ways in which venture capitalists, the way I see it, [are involved with a company.] The first one, they provide money to give the company some capital to operate with. [The second], they provide advice and help, and on a frequent basis, weekly in young companies very often, certainly not less than monthly. The balance is between advising the management and trying to run the company yourself. If you get the management too dependent on you, or you're too assertive and they get too resistant, you've got to get this balance of discussion of keeping things open so that people will ask you stuff sometimes. But the worst thing you want to hear is have a guy come to a board meeting and he says, "I have three courses of action. Which one does the board want to take." That's really bad news when a guy does that. What you want a guy or woman to come in and say is "Here's where I want to go." If you don't like it then you can argue about that, but you don't want them dependent on you for operating decisions.

So you have money and you have advice and the third element is a little more subtle. As I mentioned a little earlier in our talk, entrepreneurs are often very competitive, athletic-like people who like to win. They get enthusiastic, they're hard-driving people, and they want to be a winner. They want their company to dominate a market, they want it to succeed in the market, they want lots of things. And that kind of enthusiasm, which is not alone in athletes, it's just athletic-like is what I'm trying to say—venture capitalists often share that. Entrepreneurs like to have someone who shares that excitement of the game, excitement of the chase, almost for its own sake—again not losing sight of what in the end, what's there. So you have this sharing of desire and zeal. I call it zeal. Entrepreneurs have zeal and good venture capitalists have zeal as well. When you put those things together, you often have success.

03-00:42:30
Hughes: So it is an emotional or motivational contribution, would you say?

03-00:42:39
Johnson: That's right. We contribute to that, and if we're just very matter of fact and just only look at numbers and criticize, that's not enough. They should feel your excitement, and you should *feel* excitement. If you don't feel excitement, you'd better find another business. On the other hand, you've got to be hard-nosed. You've got to ask people to step aside when they're not doing the job. It's not like it's all fun. But that third element is not often mentioned in speeches, but it's an important part of venture capital.

03-00:43:11
Hughes: I think what you're implying is that there's a very human element to all this, that personality counts. Your ability to size up and evaluate how an entrepreneur might actually function is part of it, is it not?

03-00:43:31
Johnson: Yes, we look for zeal. We look for guys who give a damn—and women—that want to make things happen. You can be as bright technically, you can understand marketing, you can do all the intellectual part of it right. But if you don't yourself feel it and stimulate in your employees this same winning team feeling, you're much less likely to succeed.

03-00:43:58
Hughes: Well, if you think Amgen is a good example of this, I would like to hear more about how the mechanics actually work. How do you people, sitting on the board of directors, interact with George Rathmann as CEO, with the scientific advisory board, maybe even with the scientists in the company? How do all those elements that go into a company actually work from your standpoint as the venture capitalist?

03-00:44:45
Johnson: It varies a lot with the personality of the CEO. So if you want to talk about Amgen specifically— When it was very young, we had monthly board meetings. They were down south. Bill and I were up here. We would sit down, Bill and I, from time to time with George just to review what was on his mind.

03-00:45:11
Hughes: And George would come up here?

03-00:45:16
Johnson: Yes, I can't remember too many meetings up here, but we were in southern California—

03-00:45:19
Hughes: You usually went down there.

03-00:45:21
Johnson: We'd go down there, we'd stop by there because we were doing something else. Then we had different committees on the board: we had a strategy committee. The function of the strategy committee was interesting because Abbott was supportive with money and put good people on the board, but Abbott had its own axe to grind a lot. So we wanted to be able to meet and talk about corporate strategies and things so that we could recommend to the board courses of action without necessarily Abbott being present. Abbott on the one hand was supportive and gave us money at a key time, and on the other hand, the guys that represented Abbott on the board also had Abbott's best interests in mind at all times, as well as ours. They were corporate executives; their job was to make Abbott prosper, and they showed that. So we had a strategy committee that did not include somebody from Abbott

where we could talk about issues of our future, independent of what Abbott might be doing.

03-00:46:39
Hughes: And this was in a very general sense? How do we want to shape this company?

03-00:46:45
Johnson: Shape the company. Abbott had a lot of diagnostics work and there was always a concern by Abbott that we might go into diagnostics heavily. So we wanted to be able to talk about issues like that—although we didn't ever do a lot with diagnostics, by the way. Then the scientific advisory committee would meet with George, and sometimes I visited one scientific advisory meeting, but not normally. That was for scientists to talk about science.

03-00:47:26
Hughes: But how did that information from the scientific advisory board—

03-00:47:31
Johnson: It went to George.

03-00:47:33
Hughes: Would George give a report at a board meeting?

03-00:47:37
Johnson: No, George used it in his decision—George would take it and make practical courses of action out of it, like what project do they want to fund. Of course, it would come up in the discussion of things he wanted to do, that the scientific advisory board had recommended it or had thought this was a good area to pursue.

Then we had a guy named Dan Vapnek from University of Georgia to be our chief scientific officer. He was very involved with the scientific advisory board, so he and George would talk about projects they wanted to do and then they'd bring that to the board. They would explain the science, they would explain what some of the background was from the scientific advisory board. And then we had a science committee. That was a little bit controversial. I don't think Dan Vapnek really wanted a science committee. He didn't want to have a subcommittee where he had to report what was going on in science. I wasn't on that on purpose.

We had the normal audit committees. We had a committee about directors and officers and compensation—those were sort of mixed together. So it was the strategy committee I already mentioned which was a very important—this committee where really things were talked about. No action would be taken, but we had very candid discussions about things in kind of a closed meeting, and George was certainly active in that. But all the board meetings were wide open. People could discuss things and there was no particularly hidden agenda.

03-00:49:23
Hughes: Which committee were you on?

03-00:49:27
Johnson: From the beginning, oh let's see. There was an executive committee from day one. I've forgotten to mention that. So Bowes and I and George, I believe, possibly Ray Baddour, we had this executive committee that was empowered to act for the board in-between meetings. We never did really, because we wouldn't take a step even though we were authorized to do so without the board knowing about it. But we'd meet from time to time in-between board meetings and review matters of note. I'd have to look in the records, but Bowes and I and Rathmann, and I believe Ray Baddour was on that committee too.

But we gave George a place to hammer out stuff that he was hoping to sell to the board later. [chuckling]

03-00:50:18
Hughes: Was he a pretty good salesman?

03-00:50:22
Johnson: A very good salesman! His enthusiasm—he could attract people to come work there like nobody. Much, much later on, when he was the chairman of Icos [Corporation] but not the CEO, they had a change in presidents up there, and one of the directors called me and said, "We're thinking about making George the CEO of this company. What do you think about George as a CEO?" I said, "All he is is the best there is." [chuckling]

03-00:50:52
Hughes: And wasn't he, for those very early days of biotech, unusual in having such a firm business sense as well as the scientific background?

03-00:51:04
Johnson: Yes, I think his— He was a physical chemist. I think his work at 3M was not involved [with business administration], but it certainly was in directing Abbott's efforts. I think that he was in the higher levels there, and he just saw Abbott grappling with its business problems. I'm talking outside of my own knowledge here, but he was a good businessman. He sensed markets and market sizes and what we might do to serve those markets.

I may have mentioned this earlier—one of the great satisfactions of any biotech deal is that the results of your work are certainly profitability sometimes, but it's also the satisfaction of creating drugs that help people. Just this last weekend, I was playing golf with a guy, and he said he'd been treated for lymphoma, and he was getting better. I said, well, was it non-Hodgkin's lymphoma? And he said, "Yes." I said, "Are you taking a drug called Rituxan?" And he said, "Yes, I am and it's working." I said, "Well, that drug was developed by IDEC," another company I was involved in. It gave me a wonderful feeling to think that after all those board meetings and jumping up and down—and of course, probably a million or maybe hundreds of thousands of people it helped. But here I met with a guy who I was playing golf with partly because Rituxan had kept him alive. It's a great feeling. It's a great feeling.

03-00:52:29
Hughes: It's different than producing widgets, isn't it?

03-00:52:31
Johnson: Not like a computer—well, okay—my computer frustrates me too!

03-00:52:37
Hughes: Well, that brings me to another question. Amgen was founded in 1980.

03-00:52:46
Johnson: Correct.

03-00:52:47
Hughes: Genentech had been around for four years.

03-00:52:50
Johnson: Correct, also.

03-00:52:51
Hughes: But nobody—Biogen, Amgen, Genentech, Genetics Institute, none of them—had produced a product yet. An investment in any new venture has an element of risk, but it seems to me that without a product even on the horizon, that investing in these young biology-based companies had an exaggerated element of risk. Did you feel that?

03-00:53:27
Johnson: Yes, but that's what I was doing for a living. I was trying to back areas that I felt could be big and could be good, so that I didn't think I could lose this money. I knew it, of course. I thought, here's a chance to get involved in genetic engineering early on in a company with a good person running it, although I was involved before George was. Without George, that company would have faded away. It would have just been a loss. It was very stimulating.

This is true of any venture: you don't think about losing money, you think about what an investment can do, especially startup venture capital in some strange area. So you use your hunches, you use what you read, you use your sense of the practicality of the science, where the science is workable. You bring all that together on kind of a judgment call. I was trying to tell my class when I taught it—you can't calculate all this. You should run the numbers—you have to run the numbers, but in the end you've got to have a sense of balance of the likelihood of success and what you need to do yourself to make things succeed. And the venture capitalist can play a substantial role in success by selecting the right people, encouraging them, getting them incentivized, and then helping the companies devise strategy. That's an important venture capital function.

03-00:54:57
Hughes: So it would not be correct to say that Amgen was just another investment, right? Did you know from the start that you were onto something good?

03-00:55:06
Johnson: No, but I knew that the area was big. I saw along with others the fact that genetic engineering was going to change the way we developed different drugs to treat people, because we could create human hormones using other organisms, and we could put human genes into other organisms, in this case *E. coli* or Chinese hamster ovary cells, and make them produce things that people needed. If you're short of something in your own body, but we could make it in a lab and give it to you, then that is basically what is done with genetic engineering. There's also monoclonal antibodies that are generated by hybridomas, which is a slightly different thing, but it's all part of the same game.

But the answer to your question is, you know it's going to be a big area. What you don't know is, is your company going to be the one that makes it. That's where the footrace comes in, that's where the competitive zeal makes a big difference, besides the judgment and the ability to finance it. One of the risk levels that you have to think about is will you be able to get enough money together to make this thing succeed? Companies can get a great idea with great leadership. If they don't have enough money they can't develop their products. And as you just pointed out, it took a long time. I don't think we had Epo on the market—we had it approved, but I don't think we started selling it for about ten years.

03-00:56:47
Hughes: It was a long time. And did that come as a surprise to you? Were you expecting it to take so long to actually produce a product?

03-00:56:58
Johnson: It was not a surprise. We knew it would take a long time. We knew by the FDA process. Maybe it was a little longer than I'd hoped for, but I don't think it was a surprise, because in our meetings we would talk about where a product was in the lab. First of all it took us a while to even select Epo out of the ones that we had available to us. The impracticability of the chicken growth hormone, the stuff to eat up the oil spills—I didn't even know why that didn't go ahead. It just maybe didn't work very well, and the dye—this ability to make a different dye. But we started to focus on Epo pretty early on and—[pause to change tape]

Begin Audio File Johnson 4 06-25-2008.wav

04-00:00:10

Hughes: At the risk of spending too much time on the beginning of Amgen—but you were there.

04-00:00:18

Johnson: I was there all right.

04-00:00:19

Hughes: At the beginning. At that time there was concern about biohazards related to recombinant DNA. One of the things that had frustrated George Rathmann at Abbott was that the company went overboard in being concerned about building elaborate laboratories. The company had decided, for whatever reason, to be ultra cautious in regard to their handling of recombinant DNA, so much so that at least in Rathmann's opinion it pretty much tied their hands.

04-00:01:06

Johnson: I didn't realize that about Abbott or George's opinion of that. But I don't think George made that a major factor in telling us why he might come with us.

04-00:01:19

Hughes: Do you remember any discussion at the board level about the NIH guidelines [for recombinant DNA research], and there were certain kinds of research that were considered dangerous.

04-00:01:54

Johnson: Oh absolutely. I remember the discussions and I remember the NIH guidelines for sure, but that had more to do with containment in the labs of things we were doing. Not so much how the drugs might adversely affect people. We had certain rules about the rooms and positive pressures, and we followed the NIH guidelines quite closely because they were sensible.

04-00:02:24

Hughes: And yet if you remember, the NIH guidelines technically applied only to institutions that were receiving federal funds, but as far as I know, almost all those early companies followed them.

04-00:02:43

Johnson: Yes, we followed them. I remember the discussions. I didn't go and inspect the labs and know everything, but I know as a policy we adopted the NIH guidelines for the conduct of our labs, because otherwise what would you go by? Your own rules—you might not understand all the issues. I don't remember any specific discussion, but I remember clearly the NIH guidelines and the company's decision to follow them. I can't give you a dramatic moment, though.

04-00:03:13

Hughes: I would think, too, that a consideration would be, if we don't follow the guidelines, it's not going to be politically attractive.

04-00:03:22
Johnson: I don't think that was an issue. I think the issue was, we need to follow some guidelines which have been set by people who probably know what they're talking about, to keep the genetic engineering activities inside the building or inside a certain lab and a certain [fume-extraction] hood, because it is true things could get out. Sometimes we think well, that's pretty far-fetched. I don't think there was a thought about it might be politically bad or we might get sued. I think George had a very strong sense of responsibility to not let those things happen. Yes, we would have been sued if we'd done bad things, yes, it would have been politically bad—maybe in the back of the mind, but that was not in the forefront of the discussion.

04-00:04:12
Hughes: Did that mean building more secure laboratories?

04-00:04:22
Johnson: More secure than what?

04-00:04:22
Hughes: Well, than the usual lab-bench way that molecular biology had been done up until then.

04-00:04:28
Johnson: Our labs were built from the beginning with that [security] in mind. In other words, we didn't have to change them. Since I wasn't there spec-ing the labs and watching the construction and making sure, all I can tell you for sure is the company had a policy from the earliest days of following the NIH guidelines about containment. What I can't tell you is if we did follow them that closely, but I think we did. And that was George's policy, and why not. It was a sensible decision. It just seemed practical. You'd read them all, you'd say—well, come on is that really a potential [danger] or are they over-worrying it? Well, maybe they were, but I think the issues that were more of concern were, can we purify these hormones enough in the process so that they do what we want them to do and nothing else? But that was a level of detail beyond what I normally dealt with. Policy yes, absolutely.

04-00:05:35
Hughes: What about a stock option plan for employees?

04-00:05:47
Johnson: We had it from the beginning.

04-00:05:50
Hughes: Was that pro forma?

04-00:05:52
Johnson: It was common, yes. We knew that if you're going to attract good people, whether they're scientists or down the line, you want to have a plan so that everybody feels like an owner, and that if you had an option and the company

succeeded greatly, then people were incentivized by that. We even had options before we went public. Options became controversial later when people felt that people were manipulating the option prices, and that was after companies were public. But I don't know if we ever had any problems with that issue at Amgen. But we had an interesting group of people who very early on had a nice set of options and made a lot of money from their options and kept on working. We called them our volunteers. [chuckling] They didn't have to work, they just loved it. They went out there and developed products and enjoyed it. A couple of guys moved to Montana and went fishing, but that's their business too. The last of the major volunteers just retired here a couple of months ago.

04-00:07:08
Hughes: Well, that's a pretty long history of volunteering!

04-00:07:12
Johnson: Oh yes, the guys from the beginning with those early options made millions of dollars. And should have and deserved it.

04-00:07:19
Hughes: But had it been commonplace for you, in investing in companies prior to that, to see that an employee stock option plan was instituted?

04-00:07:28
Johnson: Yes, it was common.

04-00:07:29
Hughes: So it's not something that came with biotech.

04-00:07:32
Johnson: It's not something Amgen invented. We just thought it was necessary. I think the issue had to do with how widespread are options. In other words, the executives always had them, but we had options at Amgen all the way down—everybody had at least some options. I think that's true.

04-00:07:50
Hughes: Everybody—the bottle washer.

04-00:07:52
Johnson: I think so, yes, I'm pretty sure everybody had some. They were small for the people that were—but it was helpful to them.

I remember I had a meeting with Fidel Castro once, and I had just given a talk at a meeting in Havana. This is about ten years ago or more perhaps. They had two major biotech labs there, both of which could have been companies. So in my talk to a biotech group I said how they should take tthese labs, make them into companies, give the executives and all the employees some options so that they could have ownership and raise capital from outside of— They couldn't do it in the United States, but to raise capital from elsewhere.

So Castro said in this long meeting that started at 10 p.m.,“Tell me what you said. My son was there—Fidelito—tell me what you said.” And I told him what I said. He already knew what I said, by the way. I wasn’t fooled for a minute. So he said, “Well, Mr. Johnson, I’ve just been telling you how we spent years here trying to achieve social justice. If we did the things you said”— (He had a wonderful interpreter. I know enough Spanish to hear it directly, but I worked through an interpreter, as wisely I should, but she was perfect.) “—some people would have more money than others and we’re working toward social justice.” So I said, “Well, Mr. President”—everybody else called him comandante, but I said, “Mr. President, if some people had more money than others, but everyone lived better because of that, couldn’t you call that social justice too?” And he said, coldly but not hostilely, “Mr. Johnson, I know those arguments.” [laughter]

04-00:09:44
Hughes: You’re not going to change my mind.

04-00:09:47
Johnson: No, no. He wasn’t about to. But I thought as long as I was invited to go, and I finally talked the State Department into letting me go— The big issue was flying my own plane there. You have to get a special permit to go to Cuba, and it took me a long time to get that, but I did go and had a very interesting visit. They had major efforts in biotechnology there, and so I was glad to go down. The State Department said, “How do we know you’re not going to help them?” I said, “I am going to help them understand. That’s the point—to help them understand the business so they can maybe change their society a little bit.” So they finally bought that argument.

04-00:10:29
Hughes: Very interesting. You made it pretty clear that in the beginning, the array of Amgen’s products was very broad. You mentioned indigo, chicken growth hormone, et cetera.

04-00:10:49
Johnson: They were potential products. They weren’t products.

04-00:10:52
Hughes: Potential products.

04-00:10:53
Johnson: They were things that we thought we could do with the technology. One of them worked. [chuckling]

04-00:10:56
Hughes: Well, talk about what I’m presuming was a change of tactics when Amgen began to become a therapeutics company. Am I right in that?

04-00:11:12
Johnson: EPO is a therapeutic.

04-00:11:13
Hughes: Yes, it is. Was it EPO that switched things to therapeutics? Genentech also at that point had a pretty broad product line.

04-00:11:24
Johnson: We never went very far with those other [projects]. Those were like the brainstorming, original ideas when Amgen was founded. None of the other three went very far. The company's first job and its first achievement was to make EPO in quantity in a lab, get it through the FDA, and to get it into people's hands to build up red blood cells. There are two other kinds of blood cells that are of interest. Leukocytes are white blood cells. Erythrocytes are the red blood cells. And then there's something called platelets. So we though it was a natural if we could assist people to build up their white blood count, which is necessary, it turned out later, during cancer treatments when your immune system gets compromised. And then platelets—we thought we'd have those three products. Well, we never did develop a good platelet product until lately. Now they have one. That was supposed to be the three big deals. Epogen and what we called that Neupogen.

04-00:12:50
Hughes: The neutrophils.

04-00:12:50
Johnson: For neutrophils, and it was called G-CSF—granulocytes.

04-00:13:04
Hughes: Yes, colony-stimulating factor.

04-00:13:06
Johnson: We never did say, "Let's become a therapeutics company." Our product for platelets—I don't remember what the problem was—it didn't work out. So we pushed ahead with those two products [Epogen and Neupogen] and they became major products. Then we bought a company that had Enbrel, to treat rheumatoid arthritis, and that became another $3 billion-level product.

People often worry about our pipeline, but right now we have this— I'm not on the board, but I can certainly speak about public information. We have a product, Denosumab, which will have a dual purpose. One is treating osteoporosis, mostly in women. In bone cancer, the bones become very weak. We have found in some clinical trials so far that the treatment with this stuff can prevent the bones from getting so weak, because it stops the mechanism by which the bone is destroyed. There's something called osteoclasts. I'm throwing these names around as if I really understand it, but osteoclasts are inhibited by this Denusomab. And so if they're right, then women who are taking other drugs, once a week or once a month, can have a semi-annual shot that should relieve them of problems with osteoporosis. There's quite a few bone cancer cases where bones get very brittle and fracture easily. This should be a major help there. Of course, it's not on the market yet. It's not through the FDA, but these are the indications that look good, at least as far as I know in the public information that I have. I get zero inside information from Amgen anymore, on purpose. [chuckling]

04-00:15:36
Hughes: Is there a story around the IPO?

04-00:15:41
Johnson: Oh not too big a story. We decided we needed, I think it was, 40 million bucks. It's pretty close to the right number. We talked to a number of investment bankers. At that point in history it was possible to go public on high hopes, which we certainly had. We went public and recharged our gas tanks with cash. But I don't remember an exciting story about it. I don't remember a moment of crisis or a difficulty in pricing or investment bankers behaving badly. I don't remember who the investment banker was, but it was a good smooth transaction.

04-00:16:22
Hughes: The only side issue that I remember from reading Binder's book is that he was actually on the stock market floor at the IPO. Apparently there was a gasp when the trading began and the share price fell below the $18 that had been set. Do you remember that?

04-00:16:52
Johnson: No, I didn't. The stock did go on up, not sharply. Genentech went up three times [starting share price] when it was offered, but our stock did okay. I wasn't there and I don't remember the story. I think I remember hearing that it dipped down for a while and then went back up. But I don't remember hearing any gasps.

04-00:17:14
Hughes: But you weren't there with your white knuckles.

04-00:17:17
Johnson: No, I wasn't there. At that point I knew the company had a very good chance of success, and going public was a way of getting some money. Once we got the money, the immediate stock price was not of great interest to me. Obviously, it was of some interest because we wanted it to be a successful offering.

04-00:17:32
Hughes: I'm wondering if you could say something in general about how your association with Amgen was, or was not, typical of your investments.

04-00:17:53
Johnson: Well, it was typical in one sense. I've had a number of good things that came to me through very close business associates and friends like Bill Bowes. I heard about Amgen from Bill Bowes; he wanted me to be involved. It was a mutual thing, so it wasn't that he just did me a favor, although certainly it was a great favor, but he also wanted to have somebody that he could trust and

could work on the deal with him, and that was me. So it was pretty typical for me to get involved in something where somebody knows us or me.

It's also quite typical for us to dig out deals where we are the first investors. [For example],a very long-time association [was] with a very good company called Boole & Babbage, which ended up quite successful, but it was a long, long time. I used to co-invest with these three or four other individuals—John Bryan, Bill Edwards, and—

04-00:19:01
Hughes: You mean routinely you would.

04-00:19:03
Johnson: Routinely in the sixties and seventies. And [with] some other people—Hale Brothers and Bill Draper quite often. But anyway, so John Bryan heard about these two guys that were starting this really first software products company, so I heard about it from them. But they just said, "Here's a lead." I get all kinds of leads. So that's one where I sized it up myself in 1967, thought I'd get involved with these guys, and got involved and stayed involved for a long time. But I don't know whether I was too patient or not making some management changes, but by bringing in people, running it myself for a few weeks at a time in between managements— Boole and Babbage is probably a defining long-term investment. I stuck with it for a long time, and we did very well. In the end it merged with BMC Corporation, which is doing okay. It's like everything else, the old Boole business is fading off, with one major exception.

The thing that would typify me and our office is heavy involvement with the companies. Substantial involvement. I don't have any companies, really, where we don't—where one of us in the office isn't either— Sometimes we're not on the board, we're observers, and rarely we'll be into a deal where somebody else looks after it. We just don't do that much. There's several reasons that I'm into heavy involvement in companies. I like it. I like the kind of men and women that run companies, so I like being with them. I like the excitement of the competition that we talked about before, sharing that with them. And I like the idea as a technically trained but not necessarily technical person, I like being able to use, to help make judgments that involve technical decisions without trying to be a technician about it.

The other thing, which is not necessarily very businesslike is I really love talking to the engineers and seeing what's going on about the technology. I'd say if there's a characteristic that I have, I hope the most important one is honesty, and I try not to fail myself there. But the other one is involvement in the companies. But I don't always give good advice. I've made mistakes. I've hired people that didn't work. We all have had a series of things we could have done differently, but it's a batting average, you know? And my batting average is good. I'm not the greatest slugger in the business, but I've got a good solid batting average for a long time. But involvement would be the cornerstone of what I believe venture capital is. Involvement and help to the companies.

04-00:22:03
Hughes: Well, I think that's a good place to stop.

04-00:22:08
Johnson: Okay.

Interview #3: July 7, 2008

Begin Audio File Johnson 5 07-07-2008.wav

05-00:00:00
Hughes: It is the third session and it's July 7, 2008.

05-00:00:06
Johnson: That it is.

05-00:00:07
Hughes: On our first phone call, you told me that the old guard, and I'm paraphrasing what you told me, doesn't call it venture capital.

05-00:00:24
Johnson: Doesn't call it VC.

05-00:00:26
Hughes: Oh, the abbreviation.

05-00:00:29
Johnson: Yes. We call it venture capital all the time. We don't say VC. All young guys and women say VC, and the press calls it VC. But it just seemed kind of slangy at the time. Maybe we were trying to take ourselves seriously. I don't know why, but I've kept up the habit of calling it venture capital. And most of the old guard do, but they're all inactive now, mostly. At least, they're observers on the side a little bit like me, although I'm pretty active. But VC is commonly used. I know what it means. I just notice it when people say VC, but there's really nothing wrong with it. Venture capital is the name of the business, and we just don't use a nickname for it.

05-00:01:21
Hughes: The other thing that I remember your saying in that same phone call was that you don't consider venture capital a *financial* business.

05-00:01:33
Johnson: No, I don't. It's not primarily a financial business, no. It's substantially financial, but there's really three parts to it. The first part, obviously is providing capital to companies; the second part is providing guidance and

assistance and help with a number of duties other than direct management; and the third one is more subtle, but it's there—and that is that entrepreneurs, the men and women that start companies, are quite competitive. They're athletic in that sense of the word. Some have been athletes, some haven't, but they have that drive to succeed, this unwillingness to fail, that's characteristic. The venture capitalists—the good ones—the best ones, share this enthusiasm, this zeal that they have. So they sense that you're as zealous as they are to succeed.

We all know there's money to be made, we're all doing it in the end, I suppose, because it's profitable. But there's another side to that—it satisfies our competitive instincts and satisfies us to be winners. And that is a spirit which almost every entrepreneur I know shares. They don't want to win at all costs, because for lots of reasons, including they want to make some money while they're going in, but winning is important. So I would say you'd contribute money, you contribute advice, and you contribute zeal to these companies. The third one—people could argue that one all day, but I think it's important. It's certainly important in entrepreneurs. I look for it every time I meet somebody—do they give a damn about whether they succeed or not?

05-00:03:07
Hughes: Do you think that third element is something that is more typical of the first generation of venture capitalists?

05-00:03:24
Johnson: Well, the young guys and women are terrific. I wouldn't second guess at all their skills, the devotion they have to the business. There's probably a little less attention to that. One thing that's happened is the funds have become big, and the money to be made from ordinary income, from managing the money, has become high. So it has become, partly because of the presence of private equity, you would say on the scale a little above us, has made a lot of guys to act like they're in a financial business. I've had people say, "You're in the financial business." Or, "You're a financial man." I always deny that. I say, "I'm a venture capitalist, which is a hybrid." No, I think the young generation of men and women that are in venture [capital] are terrific. They examine things a lot—but I don't suggest that they don't have that quality of helping companies. Now sometimes they don't know how, if they're too inexperienced and they interfere—but that's the danger of helping. And many of them want to succeed, but it's so large now.

I come from an era, Bill Draper and I in particular, although he was with Sutter Hill for a long time which did manage other people's money. Basically our firm, and some others, because they go back, primarily manage their own capital within the office. We have a few outside investors too that we brought in who wanted to be with us for those reasons, including one Indian tribe that I like. But we're basically managing the capital within this office, mostly our own family. So we have a different kind of attitude. We take a little longer.

We’re not in any big rush to get things done. Although the latest thing we did is structured as a fund because it does have some other investors.

But the business is probably more financial now than it was, because there’s so much money to be made from management fees, and that wasn’t true [before]. In the old days—all guys talk like this—we didn’t even take the whole management fee. We said we’d make the money on the investments and on the carry when we had some other people’s money in, but not on the management fees. But now everybody takes all the management fees, including us, that are coming.

05-00:05:43
Hughes: Did you take some management fees?

05-00:05:46
Johnson: Oh absolutely, always, yes. Feed the kids and all that.

05-00:05:48
Hughes: But the percentage has gone up?

05-00:05:49
Johnson: No. It always has been a custom of when you had outside investors of taking a 2.5 percent management fee and 20 percent of the profits. Some of the firms bump that percentage of profits up. I don’t know many that bump the percentage of capital for management fees up. Some firms get 30 percent of profits, maybe even more. I just don’t know all the deals. But now, the ability to earn a lot of ordinary income is part of the reason people come into this business, which makes it more of a financial business. It doesn’t make it a worse business, but it’s a very difficult business because it’s very hard to get liquid now. Almost no public market exists at this moment. Mergers are the only—the sale of a company is about the only way out. Every so often some really hot deal pops up and it goes public, but not lately. Google and eBay and some of those did very nicely as new public companies, but that was a while back that they did that.

05-00:06:48
Hughes: I read just this morning on the National Association of Venture Capital website that there were no IPOs in the second quarter of 2008, and it was the longest period since 1978 that that had been true.

05-00:07:08
Johnson: Well, I remember in 1972, Coherent—then called Coherent Radiation now called Coherent, went public. I think there was only about five in the month of May of 1972. I think I have my dates correct. But that’s not zero.

05-00:07:27
Hughes: No, it’s not. But it is zero this quarter. Does that strike terror in your soul?

05-00:07:33
Johnson: I think it's changing the venture capital business. If it doesn't change, we're going to look more like private equity than we are like venture capital. The nature of our country is that for a long time it's been good to start a company, build it up, either take it public to get more capital and to get liquid from your investment. It was a cycle of investment, go public, give the company further growth capital, and it gives the investors and some of the management a chance to cash out a little bit. That was the cycle. It was about a five- to seven-year cycle from startup to liquidity.

That cycle has disappeared, partly because of the excesses, I guess we could say just to lump them, of the late nineties, when people took companies public with nothing but high hopes and a good Website and plenty of hits, with no plan for being profitable or growth. People bought on anything that sounded like Internet and a lot of people lost a lot of money, and it really destroyed, after 2000, the public market—not destroyed completely, but if you couple it with the financial crises of last year, the subprime lending and all that, and a lot of discouragement, why, it's just not possible to go public.

I feel certain that the cycle of startup company, build it up to many tens of millions, a few tens of millions, be profitable and have good prospects—there will come a time when people will invest in those things. I don't blame Sarbanes-Oxley entirely, although it's very cumbersome to be public now because of the reporting requirements and the expense. Part of it's called Section 404, which has what to me are onerous reporting requirements. I do think Sarbanes-Oxley did some important things, though, so I'm not against it.

05-00:09:26
Hughes: What do you consider important?

05-00:09:28
Johnson: Oh, I think it caused more accountability, caused more visibility. Some of the reporting requirements are good—it made the presidents, the CEOs take responsibility for the financial statements, which is one single good thing—they've got to sign off on them now.

05-00:09:41
Hughes: Did that mean that before, the CFO signed off?

05-00:09:45
Johnson: Yes, the CFO and the audit committee. It wasn't like there was no oversight, but people got, especially when it got to be hot on those backdating options and all that stuff, some companies did the things that we were worried about that Sarbanes-Oxley solved. Sarbanes-Oxley was not completely unnecessary, and like all reactions, I think it overreacted in terms of loading smaller companies—big companies, it costs them about the same as a little company to go through all these reportings. But I've seen the kind of money and the

tension that young public companies— So companies don't go public or they go public in London because they don't have to do that there.

05-00:10:26
Hughes: Oh I see! So it has changed the market.

05-00:10:29
Johnson: It has changed it a little bit, but that's not the real [problem]. The problem is that there's no appetite in the marketplace for the securities of little companies now. People have been stung too much. I'm sure the investment bankers would take things public despite Sarbanes-Oxley if they could sense that they could sell the stock. So if you have a young company, $25 million sales, $30 million sales, that needs another 15 million bucks, right now it's impossible. It's almost impossible to go public with a company like that because there was so much disappointment in the high hopes that were so prevalent in the late 1990s and the year 2000.

05-00:11:16
Hughes: Do you think that the experience of the bubble had a cautionary effect on entrepreneurs and venture capitalists? That maybe you shouldn't rush things so much, and that you have to make sure that your company is really going to survive and be profitable before you even think about an IPO?

05-00:11:58
Johnson: Yes, I think it did change the nature of deals. For a while it was almost like an insult—I'm overstating of course—to ask a guy who'd bring in a business plan—well, what is the profitability? What is the growth? He'd say, "Oh, I have a great website; it's got this many hits. You're an old-fashioned thinker looking for profits and growth." Well, I remember one incident at dinner with a guy and his wife. He was polite about it, but he thought that those were old-fashioned questions. People did build up heavy market values, took things public without any profits—without even really any sales in some cases!

05-00:12:44
Hughes: Were you ever tempted in that direction?

05-00:12:46
Johnson: Tempted? Yes. Resisted mostly. We did some deals, but we never did any deal that we didn't think would become profitable. Tempted by the hot market and the ability to go public pretty fast, yes, but never with one that didn't have a business plan that showed profitability in a few years' time.

05-00:13:10
Hughes: So you were still looking at the fundamentals?

05-00:13:13
Johnson: We stuck with fundamentals, and a lot of people made a lot of money doing the other things. In fact, we had a big argument in the venture community because everybody knew it was a bubble, everybody knew that it wouldn't go on. But the argument was, you have a duty to make money for your limited

partners the best you can. And if you know things can go public quickly and you can make a lot of money in a quick, multiple turnaround in a short time with extremely high IRRs [internal rates of return], the argument was you owe that to your limited partners. Make money for them, that's what they invested for.

05-00:13:43
Hughes: But the other side of that argument would be, I'm also responsible for the money that I'm responsible for.

05-00:13:49
Johnson: That was my side of the argument, yes. [laughter]

05-00:13:52
Hughes: It's sort of handy to forget that part of it!

05-00:13:53
Johnson: But those guys weren't wrong. I'm talking about very conscientious, fine men and women in venture firms, who felt that you could make money for a while doing that. So nobody could predict, really, when the bubble would end, but they said, "While we're in a bubble, let's make money in the bubble."

05-00:14:09
Hughes: Do you think that acting in that fashion has had a lasting effect above and beyond the economic downturn?

05-00:14:21
Johnson: Yes. It was painful, and a lot of people were hurt by the so-called high-tech bubble. But 2000 was eight years ago, and so pretty soon the greed will overcome the pain. I've been through a lot of cycles now. I can't give you all of them, but ups and downs, and [venture capital] always has come back.

Now, can we say we're in a different time of the world where the public market for small companies won't come back? I doubt it. I don't know when. It won't be in the next year or so, because of the general slowness of the economy. Money being spent on healthcare isn't going down. Now they could have legislation in the next few years that will make it very difficult or unprofitable to start a healthcare company, but we have a worldwide lead in biopharmaceuticals and in pharmaceuticals and biotech. If we set up taxes and difficulties so that we don't encourage that side of our business, it would be a bad thing. But I don't think we will, no matter who gets elected. I'm a little scared sometimes about heavy leftward movements, but I really don't know. I just know that we just can't throw that away. It would be throwing away a way in which the United States leads the world.

05-00:15:59
Hughes: One of the hot areas was, at least before this downturn, clean technology, which of course ties in with all the concern about global warming.

05-00:16:12
Johnson: Yes, that hasn’t gone down at all.

05-00:16:14
Hughes: Will that still be an area of investment?

05-00:16:17
Johnson: Yes, it is now. Some firms have really specialized in it. Kleiner, Perkins, Caufield & Byers set up a whole division or a whole group of men and women to do that. But clean technology deals are mostly not things that are small startups. They’re mostly big companies in existence because you’re talking about engines and fuels and ways of changing the ways in which factories are built and those kinds of things. We’re small enough so that we are not guys who invest tens of millions of dollars at a time. Some venture firms do, and many private equity firms who come in later and do buyouts, they do that.

Green tech will stay hot for quite a while, which is a good metaphor since we’re worried about global warming. Now whether those companies will be successful, how they’ll make money, how they’ll go public—I don’t know that. We’re not doing much of that, not because we’re against the environment getting better, it’s just not something where we can do investments. Now if we found something that’s a small startup that we felt we could finance which might lead to a big company, we might consider that. But I think most of the transportation systems and really big money deals are what green tech is about. My own view is that we’ll find some balance. I don’t know, speaking for myself, what the balance is between global warming being caused by a natural cycle and how much is caused by people. All I know is for sure, people are causing some of it.

05-00:18:04
Hughes: Yes, they are.

05-00:18:05
Johnson: So I think we should control what we can control without ruining our economy. So I’m not too much of a skeptic, but global warming has become kind of a religion. It has a book, it has a prophet, it has apostates, it has people being punished for not being believers. So it has all those characteristics, and you’ve got to step back from it and say, “What’s going on? What’s really happening here?” In the last couple of weeks I’ve heard maybe Greenland isn’t melting as fast as we think, but I think the environment is warming up over the decades and century or so. If CO_2, in fact greenhouse gases, are causing part of it or a lot of it, we should try to do something about that. From the venture capital point of view, green tech, that general area, is hoping to do something about that problem.

05-00:18:55
Hughes: Are the social implications of a business one of your considerations in investing in a company?

05-00:19:16
Johnson: Yes, we do think about that. I think it tends to bet in more of a negative sense. First of all, at the personal satisfaction level, a successful biotech company which leads to drugs that relieve or cure really difficult ailments, gives you a tremendous sense of satisfaction. We're working on a company right now, which we believe will cure Type 1 diabetes, which is a heck of a thing. Other people are working on it too. We believe we're on the right track using human embryonic stem cells to produce beta cells that are in your pancreas, and then when you have glucose in your blood, they will secrete insulin and do just what a pancreas is supposed to do. But for many young people, because of immune reactions earlier in their lives, their pancreas is essentially made dysfunctional. Type 2 diabetes is for older fat guys without exercise, but there's many, many more cases of Type 2 than Type 1. They're almost like different diseases. One, you can't use your insulin; the other one you can't even make any, to oversimplify of course. Some of it can't be cured, but a lot of it could be cured by people staying thinner earlier in their lives and keeping up their exercise—and I'm no one to talk. [chuckling] Although so far, I haven't got Type 2 diabetes or Type 1.

But just to get back to that—if this company succeeds, of course, it'll be quite profitable. All these young men and women, we know that they have to take insulin—you can't really do that your whole life. You can control it for a long time, but over time people have problems because they take too much or take too little. They have hypoglycemia, they have hyperglycemia, and it takes a toll on your organs, even on your limbs. So it'll just be hugely satisfying if this thing works. We've had a lot of zeal go into that company as well as money.

05-00:21:19
Hughes: Looking back on your investments over these many decades, has it been the medical applications that have inspired you in this way more than other lines of business?

05-00:21:39
Johnson: I've found more personal satisfaction when we have letters from men and women saying, "Oh you helped me so much." Amgen used to get great letters from people with anemia who weren't anemic any more, and they'd say, "My life has just changed. Thank you so much." Amgen is very profitable, too, at the same time. But Tandem Computers was very satisfying because it filled a niche in the computer area—distributing data processing and non-stop dependable computing. It was very satisfying when Tandem succeeded so well, but I didn't get that extra little bump from people being cured.

But on the other hand, my cautions are not getting involved in businesses which I think, even though they're legal, may not be any good for society.

05-00:22:42
Hughes: What are you thinking of?

05-00:22:43
Johnson: Well, a guy came in one time and said that he had a terrific idea for a house of prostitution in Nevada, which is legal, and he had all these business plans. I said, “Look, I don’t care, I don’t care.” [chuckling] “I don’t want to be in that business, period. I think it’s legal, and I think you may make a lot of money, but I just don’t care about that.” That’s an extreme example of what I mean. I don’t want to be in that business period! [laughter]

05-00:23:14
Hughes: Well, I want to get back to one of the statements that you made in the beginning, which was something along the lines that Asset Management does business in house—I’m paraphrasing.

05-00:23:35
Johnson: We have a few outside partners, mostly families that know us and this one Indian tribe that heard about us. But most of the capital is from my wife and my kids and me.

05-00:23:47
Hughes: Yes, so that obviously gives you a lot of control, arguably more control than if you have Kleiner, Perkins partners determining an up or down, or yes or no situation.

05-00:24:07
Johnson: The way we do it here is pretty much like that. We have a group of three of us who are general partners. The fact that I have such a heavy limited partnership interest doesn’t give me much of a legal right anyway. Even though I’m a heavy limited partner along with the rest of my family and some other families, when we’re in a meeting, as we were up until this meeting started—We have three general partners and three people whom we call partners. They’re not legally, technically, but they’re very much part of our team. So we argue quite vigorously about things, and we happen to have it so any of the general partners can say no to a deal.

05-00:24:53
Hughes: And that would hold?

05-00:24:54
Johnson: Even when I wanted to do it—yes, they could say no.

05-00:24:57
Hughes: Even though it’s basically your money?

05-00:25:00
Johnson: Yes. That’s just the way I set it up so that we had more of a partnership operation. Now, when we had the straight family partnership, I was the only general partner. That thing is still operating, with additional investments in old deals. I do have the sole say so and I exercise it. But we just felt it would be more healthy to have a more normal general partnership relationship where legally two or three of us, I think, could overrule the other one. But as a

practical matter we’ve agreed that if we don’t all like a deal, we’re not going to do it.

05-00:25:35
Hughes: And that’s just a gentlemen’s or gentlewomen’s agreement?

05-00:25:41
Johnson: Well, gentlewomen can make gentlemen’s agreements, yes. These are all three guys.

05-00:25:45
Hughes: [chuckling] It’s not a legal part of the partnership?

05-00:25:50
Johnson: Oh, it is a legal part of the partnership that the general partners have to approve the deals, absolutely. I don’t think it’s in the partnership agreement that it has to be approved by all the general partners, and that even though we don’t have equal ownership, we have equal votes in the management. It may be that we set up the partnership so that legally all the managerial partners have to approve a deal.

05-00:26:07
Hughes: Am I hearing you, though, that aside from deciding that maybe you need some more voices in decisions, that there also were legal aspects that bent you toward having more voices in the future?

05-00:26:26
Johnson: Well, you set up a general partnership—the limited partners really have nothing to say about those decisions.

05-00:26:31
Hughes: I’m talking about your partners.

05-00:26:38
Johnson: Well, I have to separate my—I have two hats on. I have a hat as a family member and as a person that’s invested as a limited partner. My other hat is I’m a general partner in the firm and there are two other general partners.

05-00:26:49
Hughes: Yes, and I’m talking about the general partners.

05-00:26:51
Johnson: Well, the nature of a limited partnership is that the general partners make the decisions. And if the limited partners make the decisions, they lose the protections of being limited partners.

05-00:27:01
Hughes: I know that.

05-00:27:02
Johnson: I suppose you're right—one reason we have a partnership setup is so that if anybody ever questions, did you make decisions as a limited partner? I say no, I made my decision as a general partner along with other general partners.

05-00:27:17
Hughes: Had you gotten burned when you were operating as the sole general partner?

05-00:27:25
Johnson: No, never got burned.

05-00:27:26
Hughes: What prompted you to make the switch then?

05-00:27:30
Johnson: Because we brought other investors in. When it was Asset Management Partners only, my wife and four kids were the limited partners. But I wasn't a limited partner. I was only a general partner in that fund, so it was a third, a third, and the kids together a third.

I've always heard and known that if you're a limited partner you could become considered to have liabilities. But now with some outside investors, even though they're family friends and, as I said, one Indian tribe, we treat it like any other fund and we have a general partner. I'm both a general partner and a limited partner in this case. Even in much earlier funds where we had some outside people in them, I've always been an investor in the general partnership beyond just the minimums required.

So I've never got burned, but with the structure of having some outside money, we just felt we should have a more normal general partnership that makes decisions, and I didn't want to be the only general partner. I'm not sure these guys would go along with that anyway, because they're professionals and they want to have their say so.

05-00:28:50
Hughes: Then if the decision-making process is more or less like other firms, is there anything that distinguishes Asset Management from other venture capital firms?

05-00:29:04
Johnson: If we make a lot of money, we keep most of it, that's what! [laughter]

05-00:29:09
Hughes: That's a good one!

05-00:29:08
Johnson: We have a carry, a normal carry, that I share with these other guys and with other people in the company here. So the profit sharing is there. But the limited partners, of which most of the interests are our family, sure—we make a great deal, the money stays home. We pay out some to the other limited

partners, and then 20 percent of the profits end up being shared among the other guys in the office, including me. I take a normal share of the profit sharing. It's called carried interest. You know about that.

05-00:29:48
Hughes: Okay. How about Asset Management in terms of looking at a potential deal? Is there any set of criteria that you use that might be a little different than what other firms use?

05-00:30:00
Johnson: Well, we emphasize startups a lot, although plenty of people [do].

05-00:30:04
Hughes: Right. Why startups?

05-00:30:05
Johnson: Because when you have smaller amounts of capital and you want to make a lot of money, the multiples are higher if you succeed. You're not as fast and the IRRs sometimes aren't any better. But if you can make ten times your money in five years, that happens to be 58 percent IRR on that deal.

We calculate returns on three levels. The portfolio return—that's all the money going into the portfolio and all the money coming out. The partnership return—all the money that comes into the partnership from any source and all that goes out. Then you have limited partner returns, which are all the money that comes in from the limited partners and all that goes out to them. The middle one is not calculated very much, but everybody calculates the portfolio return, and some people never talk about much more than that. [It] is *higher*, because you draw a circle around your portfolio, money goes in, money comes out, and that's the multiple on the return.

In the case of the limited partners, you draw a circle around them. All the money they put in, all the money they get out—that's the limited partner return. That's what most people think of from an investment point of view. But there's also this other level where you draw a circle around the whole partnership. All the money that goes into the partnership in general, limited and general, and all the money that comes out to the limiteds and to the generals as well.

05-00:31:22
Hughes: What about the more subjective side of it, the thrill of being in at the beginning of a company. Does that at all enter in?

05-00:31:42
Johnson: Yes, oh yes. There's two things about it from a kind of a thrill side that I love. I like science and technology, so I love doing my homework on some of these deals and having those guys explain to me what they're doing technically. It's just interesting. I'm an engineer. I went back and took some biotechnology at Stanford after I got out, and I've always read about and liked science. I

wouldn't say I understand it at a bench level, but most things people are doing I at least get an idea of what they are doing. I love to talk to scientists about what they are doing, especially now with the stem cell initiatives and all those things that are using modern biotechnology, modern genetics. So that's the thrill part of it—intellectually, I guess you'd call it.

But another thrill part of it is the startup—the getting a company going, creating something where nothing was there before, looking at someone's dream, usually someone else's dream, and buying off on that dream and getting in with them and making it happen. I just got back from the Olympic trials. It's a little like wandering around the starting block before you get on the blocks—it's a very exciting moment. I remember from my own running days, you go into a bubble—you don't hear anything but the starter's commands. You don't hear the crowd, you don't hear anything. You're just so inside yourself.

Now it's not quite that dramatic, but there's some of that and that's where the competitive zeal part comes in. Plenty of people have that who've never been athletes by a long ways, but you hit a point that's a good one. There is an excitement and a thrill to getting a company going. It's a slow-motion thrill, because things don't happen for months. But you sense the desire and drive of the men and women running the company, you share in that, and when it does succeed— When it fails it feels awful. It isn't just oh okay, we lost a million bucks. It's not that easy. You failed.

05-00:33:48
Hughes: So there's an emotional commitment as well as a financial commitment?

05-00:33:57
Johnson: Yes, and you could call that a weakness, too. Don't fall in love with your deals is an old saying, and I probably err on the side of getting too interested and excited about deals.

05-00:34:10
Hughes: Does that mean that you have sometimes stayed in a deal too long or not made changes soon enough?

05-00:34:16
Johnson: Yes. Craig [C.] Taylor, who worked for me from the 1970s to the 1990s—there were about twenty years, so he obviously was influenced by me a lot, and before him, Brook Byers. Brook never said this, but Craig said, "You know, I had to unlearn something. I had to unlearn that you [can] stick with a deal forever." And he was right about that. I'm a little weak on that, but sometimes it does pay. Sometimes if you just hang in there and work through a tough time like now, the payoff can be great.

I really haven't sat down company by company and reviewed whether I should have done something, changed managements, or just dropped out of the deal. Changing managements I'm not that bad. I'm a little slow, but you've really got to give this guy or this woman a chance to succeed if you think they can. If you don't think they can, you should have decided that first, or sometimes you make a change pretty fast. I've had three or four times I've just sat down with guys and said, "I'm sorry. We're going to have to make a change." And often they're guys I know and like even. No one likes to do it, period. It's an awful thing to do. I'm not as good at recognizing and then doing it as some other guys are.

05-00:35:36
Hughes: Do you think that *is* because you're somewhat clouded by the emotional side of the investment?

05-00:35:41
Johnson: Yes, probably. It's probably because I care about the deals. And you can't care about the deals, like caring about the people. I don't know if it's a weakness—it's a strength too. It's a strength because they sense and you sense that you're in there to win, and when you change a president, when you ask someone to step aside, it's a moment of failure, really. But you'd rather have the relationship fail than the company fail.

05-00:36:08
Hughes: Is a management change at the top, probably *the* crisis for a young company—aside from not having money.

05-00:36:28
Johnson: No. Running out of cash, it gets your attention. The sight of the gallows clears your mind. [laughter] I didn't say that, as you know, somebody said that, but that's so true. At a level, it's crisis. You try to do it before there's a crisis. You try to do it because you see the company heading south, or as they may say in Australia, north, I don't know. But we try to make changes and try to just observe. Sometimes the signals come from inside the company—the people *there* want a change. That's happened at least once to me. You can't not listen to that! [chuckling] And sometimes it's funny, in a way, because people say funny things. It's in anticipation of a crisis you don't want to face. That's what it is. By itself it's not a crisis, it's just a decision that the board of directors makes.

05-00:37:32
Hughes: You've mentioned a couple of times an Indian tribe.

05-00:37:37
Johnson: Oh, they were called the South Utes. The South Utes are a branch of the old Utes that lived in Western Colorado and Utah. I can't give you the dates, but let's just say in the 1860s and 70s they were put on some really awful land, like our forefathers did with many Indian tribes, and that land had silver on it. So as soon as that was discovered, they kicked them off of that land and put them on some even worse land! But that land had oil under it, and by then it was too late to kick them off!

I forget, I think it was Exxon or somebody who discovered the oil there. So then they obviously began to have oil royalties, and it's a nice story if I have it straight. It may be myth, but I think it's true. They had a very wise chief who's called chairman of the tribal council, but he's basically a chief in an ordinary sense. He argued with the Bureau of Indian Affairs and said, "We don't want to pass out all the money to these families every year. We want to pass out half the money, so they can live, and then we're going to invest half for them." Extremely wise decision.

Well, I can't give you the numbers, but they have a little under three thousand members of the tribe, and they have a few billion dollars of assets now from having investment programs. So we hope we add to that for them. But we went there to visit them near Durango, Colorado. Interestingly enough, some of the managers of the money are Indian Indians! From India, not American Indians, just a coincidence of name. But there's a tribal member that looks after that, a manager, looking after the other Indians who are managing it. So we've had a good relationship with them. Not a lot of contact. We hope to deliver some really good things back to them.

05-00:39:34
Hughes: Is this a fairly recent association?

05-00:39:36
Johnson: We call that fund the '04 Fund, so it was 2004. I don't think they mind my mentioning it since it's a public matter, but we report to them every quarter. As I say, we have high hopes for them and us. I don't know how that came up, because almost all the other limited partners with us now are people who knew us to start with. One family in particular said—next time we do something could we get involved? And so we've done that.

05-00:40:15
Hughes: So you've had more or less the same limited partners since you started out?

05-00:40:20
Johnson: No, not at all. If you go back a long way in history, we had some universities as limited partners. Our firm, some guys left us because they wanted to be managing larger amounts of money and managing other people's money. That was Craig Taylor and some other guys. They left in the late nineties sometime and formed their own firm called Alloy Ventures with which we're quite friendly and communicative. So some of those universities and other limited partners we had in an older fund. But I've always had this family fund called Asset Management Partners, which did the investments in Eastern Europe, did the investments in other venture capital companies, and for a long time was our venture fund that we had. Only in 2004 did we start another fund that had these limited number of limited partners.

05-00:41:17
Hughes: Well, maybe this is the time to talk about the Eastern Europe venture capital business.

05-00:41:22
Johnson: Sure.

05-00:41:25
Hughes: Were you early in the game in venture capital in that area?

05-00:41:28
Johnson: Yes. The quick history of that is that Bill Draper, whom you've interviewed, and who was my business partner in a very early SBIC in the sixties, became the head of the United Nations Development Program—UNDP. And so in 1990, when the walls were starting to come down in Eastern Europe and Communism was collapsing, he asked me—that all happened in very late '89 and '90. He said a few months earlier, "Would you go with me on a trip to Poland, Romania, Bulgaria, Albania, Yugoslavia, and then Czechoslovakia and just talk to the country leaders about building small businesses and venture capital?" I said yes, but the Polish part I couldn't do—because I just couldn't do it.

So I started in Romania, and we met with the heads of state government during the trip. They were not my normal people to deal with but UNDP did. So we went to the last of those countries and made some subsequent visits when I was invited to come back, just personally. The UNDP was helping, so they funded my trips. Then I realized after a while that they didn't need [me] anymore—I made two or three trips. In fact, in Romania the man who became prime minister asked me to be his advisor, so I made several trips while he was prime minister to advise him about these issues—a guy named [Theodor] Stolojan, so I got to know Romania pretty well during those visits.

05-00:43:23
Hughes: Had they any form of venture capital before this?

05-00:43:27
Johnson: Well, not in the Communist era, no. [chuckling]

05-00:43:29
Hughes: No. [chuckling]

05-00:43:30
Johnson: They were lucky if they did not get arrested for selling applies on the streets. That's not quite fair, but they didn't have any businesses. I suppose people were bartering and trading. You can't really stop people from doing business entirely. There were quite a few government-owned plants and government-owned businesses.

Then I visited the Czech Republic on a trip. Also in an unrelated trip in June or maybe July of 1990, I was invited to go to Russia, and I met with the mayor of the city then called Leningrad and gave a bunch of talks there, including to the city council. That led to, a few years later, my getting involved in a venture fund starting in St. Petersburg.

But getting back to this other trip—after about a couple of years of giving advice, it was obvious that they really needed somebody to start some venture funds. They had privatization funds, and they had people who were starting to buy up government-owned companies and run them. Or they also passed out the stock to lots of people, but venture capital seemed like something they could use.

So what happened was that a guy of Polish origins and three guys of Czech and Slovak origins came to me separately suggesting we start a venture fund there. So I, without going through all the details, sort of jammed them together—unwisely, it turned out. We started a fund based in Warsaw, with an office in Prague, which would do deals in both the Czech Republic and Poland and Slovakia, which by then was a separate country. Czechoslovakia split into two countries way back in there.

I put in some money. A firm called ABN AMRO Bank and EBRP got interested and they put in some. Then we had some other investors around here from origins in those countries—Polish or Czech, and it ran along pretty well. The net of it all was that the Polish guy couldn't get along with the other guys—I don't know why, they're all Slavs, but they couldn't get along. And it may have just been more personal than any ethnic differences. Because Slovak guys can sort of speak Polish, we took the Slovak guy and put him to run the Warsaw office after the Warsaw guy left, and then brought some more Polish guys in and that worked out fine, that relationship.

But the fund—I can't give you the dates—it just finished up a couple of years ago and made a few bucks, but it was never really successful. It didn't lose money—that's something. So we paid off all our partners, and there was a slight profit, a very slight profit, so nobody lost. We started another fund, with ABN AMRO. We didn't even try to raise money from these people who hadn't done anything but get their money back. That fund is now in its fifth or sixth year, I don't remember, and it's doing very, very nicely. But ABN AMRO, for reasons unrelated to all of this, has broken up into a series of banks and selling itself off in pieces. So they will not be participating, I'm sure, in any future funding.

Now the guy we brought in from Slovakia died about five years ago, so it's been run by a group of Polish guys. So we're about fully invested, and it's doing very well. Several months from now, they'll try to pull another fund together, and I probably almost certainly would be involved in it again. I don't know whether I want to go to Europe four times a year anymore, but that's another matter. I like flying my airplane, though, it's a good way to go.

Let me finish that up. The man I've been advising, who was the prime minister of Romania, left that job and asked me if I'd be involved in starting an investment bank there, which I did. It was sort of venture capital, and that has evolved into more of a private equity fund which I'm involved in—a public one with public shareholders. And then in Russia, I got involved with a fund in St. Petersburg, invested in that, and was on the board of advisors there. It's just wrapping itself up with pretty good success. Then I helped a biotech group of companies to win a competition to get some government support along with private money to start a new venture fund. But the private money never really came around. They won the competition of three out of, I think, about fifteen firms. But whether I want to be involved with that very much, I don't know. The private money never came around so the thing's been financed by some Russian banks and I'm not so sure what my role will be there in the future. Probably not much.

Then I got involved in Norway, which is nothing to do with Eastern Europe, and backed a venture fund there and one in New Zealand. So I've helped back other venture funds in the United States, helped them get going, especially in the biotech area where I'm known. In Romania, Poland, the Czech Republic, Russia, Eastern Europe, New Zealand, and Norway, I've helped start funds in which I'm involved in each case [or] in descendants of those funds.

05-00:49:55
Hughes: In some of those cases, did you get the venture capital ball rolling, so to speak?

05-00:50:00
Johnson: Yes, I think so. We were early in—being early in is not necessarily smart. But we were very early in Poland and the Czech Republic. The only what I'd call normal venture fund [was] in Russia for a while.

05-00:50:15
Hughes: Your comments bring to mind another general question—the importance, or not, of the infrastructure, or the geography, or the culture, whatever you want to all it, in which venture capital is occurring. I'm surmising that a venture capital enterprise in any of the countries that you mentioned must have been different in some ways than doing one here.

05-00:50:53
Johnson: A lot! [chuckling]

05-00:50:53
Hughes: Well, can you talk about that?

05-00:50:56
Johnson: Yes, sure. Let me take Poland—the most positive case. Poland was never fully communized. They had private farming, a lot of private farming, they had small, private businesses. I think the number was twelve people you could have. So it had kind of a running start. So they were sort of ready for the

thought of private business, and private businesses got going fast. There were some already there when we got there.

But the emphasis here is on high technology—a group of engineers, a group of scientists, some graduate students doing something brand-new in technology. That wasn't what we were doing at all in Poland. What we were doing in Poland was helping people start companies where there weren't any companies before. There was very little infrastructure to support them, and so we created a lot of startups—or backed them. We didn't *create* any, we backed some startups, some of which didn't work. They were in things like homebuilding and in helping computers be used by companies.

One company that did very well took software and hardware from western suppliers, put them together, installed them in companies, and got a fee for training the people in selling the goods. That worked out very nicely. One was sort of scientific. This guy developed a new kind of a pipette. That's more like what we do here, and that worked out nicely. We backed a pizza manufacturer that didn't do well—seemed like it would, but didn't. We had, oh I can't even name them all. There was a kind of a Federal Express type of thing that did okay. We had a couple of software companies that were more like what we would do here. They were of varying quality. We had one call center that worked out pretty well for a while, where you'd call in, and we had people talking about products, and so we would have people that knew products well. So you'd pick up the phone and say, "I'd like to talk about soap," or something—I don't know, I probably have the wrong example. But the call center was pretty good. It had some problems but eventually succeeded.

We did about twenty deals, but very few of them were new kinds of technology. Some of them were applying technology to modern business, that they didn't have much there. Some were just creating businesses—like trucking and transportation—where they didn't have it before. So that era is over now where you're trying—those economies are going on. Poland is probably the most lively country, although Russia would have to be considered that too. But it took the Czech Republic and Slovakia longer to get going because they were at a dead stop. I'm not sure about this, but I think the barbers worked for the state.

05-00:54:15
Hughes: So you had to start at square one with the idea of private enterprise.

05-00:54:20
Johnson: Start at square one with them. A little bit like a relay runner grabbing the baton from somebody who's already running, or being in the 100-meters and starting from the blocks. To the extent we made money in that first fund, it was just about all made in Poland, and we had some losses in the Czech Republic. Different guys ran the office so you'll never know [whether] it was the people or the situation. But early on, Poland was by far the best place.

Now Russia's turned out to be lively. It's a little bit rough and tumble atmosphere there—

05-00:55:02
Hughes: Rough and tumble in terms of the crime element?

05-00:55:04
Johnson: No. We didn't get influenced by the crime very much. We had little companies with little money, and so there was nothing much of interest to the crooks. There are crooks there, but we didn't run into those. Rough and tumble business methods— A lot of it has to do with whom you know and influence and government influences and those things. We didn't run into the crooks. I'd have been very uncomfortable if we had to deal with them. I wouldn't have, actually.

One of the entrepreneurs cheated us, but all the other ones we dealt with were really normal men and women—not many women in Russia I might add—who we made or lost our money. We used a technique in Russia which is an old American technique of buying a lot of stock cheap and then lending money that the entrepreneur doesn't have. So you got a big loan and a little equity. This guy—we paid off our loan and then he said, "I'm canceling your stock. And we said, "Why?" And he said, "Well, because you didn't give me as much help as you should have." It was just an excuse for the real value of the company. So we took it to court and the court ruled in our favor.

05-00:56:29
Hughes: You took it to court there?

05-00:56:29
Johnson: The court there, yes. But the enforcement of the court order has not been straightforward. [laughter] So I don't know what's going to happen there, but nothing good. The guy was just—I'd call him an ordinary chiseler.

05-00:56:44
Hughes: Yes, whom you could run across in any country.

05-00:56:48
Johnson: You could run across anywhere. Russia's not that big. It's about 200 million people or something like that.

05-00:57:04
Hughes: But in geography—

05-00:57:11
Johnson: It's as big as you can get in geography, but it also has a lot of mineral income and resources. A lot of guys bought up government companies cheaply, by whatever means they did that. I don't have any firsthand information. So they have these billionaires types, and they are not very interested in venture capital or starting young companies. There's quite a wealthy group of people in Russia. They travel all over Europe—you seem them. There's people with

lots of money there. They buy all kind of airplanes, in their cities they're big deals. And the old retired people live pretty modestly on old pensions. There's a pretty good sized middle class there, but it's quite capitalistic. It's fully capitalistic now. But they haven't done what we had hoped in terms of making sure that the companies that the government sold were sold in private people in an open and fully disclosed processes.

05-00:58:20
Hughes: Yes. Well, let's stop there. [tape change]

[End Audio File 5]

Begin Audio File Johnson 6 07-07-2008.wav

06-00:00:00
Hughes: We haven't specifically talked about venture capital in the Bay Area, and why this area has been so flourishing and fruitful.

06-00:00:27
Johnson: Well, that's been looked at by lots of people, scholars included. But I've got my own thinking. I think the most important single reason is the presence of two, now three, great research universities in the area—Stanford, Cal, and UCSF. But also, the presence of other important educational institutions that provide a great flow of engineers and people that aren't scientists, although two produce engineers. You have San Jose State, a very fine school. Santa Clara has a good engineering school and a business school. And so the total educational environment here has been very strong, not only in technology—Cal and Stanford have great business schools, along with Santa Clara and Hayward—they all have MBA programs. So you have a broad spectrum of educated people, all the way from science through marketing and finance.

Then the second factor is statewide, but it's true here. The community colleges are an unheralded but extremely important part of our educational system. So you have such heavy-duty training of technicians and technical people, plus people who go back and take accounting, as my wife did, or take business subjects that weren't part of their undergraduate education. So number one is the educational environment and research which is very strong,

Second of all, people like to live here. The climate's good. I'm going back to when I was a kid—there weren't many companies. HP [Hewlett-Packard] and I think Varian was going when I was a little guy. HP got going in the late thirties. But you have an environment where you didn't have the strictures and structures of back East. You had a much more open environment here, in general, in the West. And we were independent. They didn't pay much attention to us, and we didn't pay much attention to them back East. So you had an environment of freedom and lack of having to do things the old way.

It all started with education, but then we had an environment here. Federal Radio got going in 1906, so there's been a history of a low level of entrepreneurial activity, and it made this area somewhat different. But the success of HP, the concentration that Dave [Packard] and Bill [Hewlett] had of building a fine company. I had Bill talk to my class at one point, and he said, "We never thought a lot about making money. We knew we'd make money. What we really thought about was building a profitable company that served the customers well and was a great place to work." And he really meant that. That was an absolutely sincere statement, and they did that.

So I think the idea that HP succeeded here spun off a few, but not many people who had the ability to work in other companies. Other people were inspired by the model, so that by about 1958 or so, it was clear that there were lots of technical people, people wanting to start companies, and so the few companies that had made it like Varian, HP, and a couple others, and Watkins Johnson, some of those were just sort of the natural kind of things that occurred here because the people were here.

I think people coming through during the war and seeing how great the weather was influenced people to want to live here. But there was very little venture capital, so that wasn't part of the success at that point.

06-00:04:40
Hughes: But there was military money, the defense industry, particularly in southern California, right?

06-00:04:48
Johnson: Yes, I'm talking about Silicon Valley at the moment. There were some defense expenditures here, but the bases here were operational bases. The support of research in the universities by the Defense Department and by the government in general was an important factor of getting intellectual stimulation for both people and for independent ideas scientifically. It was kind of a snowball, an exponential effect with a pretty low exponent on it. I just think the people were here, and the environment was such that it became okay to be an entrepreneur. You could talk about my son the doctor, my son the lawyer, but my son the entrepreneur became a good thing to be—or my daughter.

I moved here in 1940 when my father became the Stanford track coach. I had lived in Des Moines before that, up 'til twelve. So I early observed almost all of this up until 1950 when I moved away to go back East to school and then the air force and then I had a job back East in the steel mills.

06-00:06:00
Hughes: Right, so you had ten years in California.

06-00:06:02

Johnson: So I missed the direct observation of that period between 1950 and 1962 when I moved back again, and that was a very important time. But during that time, a number of companies were started, and a pioneer venture firm called Draper, Gaither and Anderson, started by Bill Draper's dad and two other men, backed by the Rockefeller family and others, set up offices here and began to make what we now think of as venture investments in technology companies.

You have a copy of my chart already—you can see some of that history in there very, very early on. In fact I started the beginning point of my chart in '58, even though a couple of individuals were before that.

So why the success here? Primarily the great educational environment and emphasis on science and technology, b) the lack of structure and freedom to try things and not have to be part of some earlier structure and then, c) just a salient firm like Hewlett-Packard that set the pace and example for everybody.

06-00:07:13

Hughes: Would you also put in this mix a culture that is not risk averse, that is willing to try new things and try new things that fail?

06-00:07:26

Johnson: Well, I think that's true of the United States, but it's certainly true here, and we're certainly influenced by being part of the United States. Now I gave local conditions. There are things that are present in our whole country that enabled us to be part of that.

One was, much more than Europeans, we're tolerant of people trying things and failing. Maybe a little more free here than back East, but it's part of our culture to make money, lead your own life, not be too dependent on the government, and have an independence from the government. It's a big argument we'll have politically in the next months, I'm sure. Always we'll have that. But self-reliance is part of the West.

We have relatively low taxes. We don't have the lowest taxes in the world, but we have taxes where if you make some money you can keep it, some of it, and you can reinvest it in your company. There are other countries with lower taxes than we, especially on capital gains, even though our capital gains tax has been lowered—there are countries that don't have *any* capital gains tax. They figure you invest money, you take it out, you want to reinvest it, that's not taxable.

We won't have that argument, but moderate taxes, an environment encouraging self-reliance and building your own life and being responsible for yourself is a national trait. De Tocqueville pointed this out very early on. We've never lost that characteristic, and we should keep that the best we can.

06-00:08:51
Hughes: Why do you think that is? The easy answer might be is that the sorts of people that originally came to this country were enterprising and obviously willing to take risks if they were going to go to an unknown continent.

06-00:09:12
Johnson: I'm sure there are sociologists and historians who can tell you a far more official answer, but our ancestors came and left behind them whatever structure there was, and came to strike out on their own. My own particular y-chromosome ancestor was named John Johnson. I know he came in 1635 and settled in Ipswich, Massachusetts. He was one of the founders of that town. I don't know much about him. I know he left England, left something behind him. He was a carpenter and all that kind of stuff. But he built his own life there and up in Andover later. I don't know much about them, but I've looked at all those generations.

They're just the people that built the country. I'm very proud of them—none of them were big deals, though. They're big deals in a town, say, but they weren't Cabots and Lodges and all that stuff, who did their job too, by the way. Mine were all farmers, carpenters, one forbearer started a bank in Decatur, Illinois.I've never spent that much time on them, but they were just moving West and building lives and they're typical— That's the thing, they're typical of our country, because they were obviously on their own, and they built their success or lack of it.

But getting back to what you said, I think we're much more tolerant of failure or people being on their own and trying things than they are, say, in Germany, especially where failure, up until lately, has been a very difficult thing.

06-00:10:49
Hughes: These are cultural/social attributes that we're talking about. Did you find that was a barrier when you went into foreign venture capital?

06-00:11:04
Johnson: Well, we were breaking through something different there. We were breaking through the end of Socialism. I would say people were anxious in all those countries to get out from under the heavy hand of government dependency. I think it was a human trait, but there was more concern about failure than you might think.

Venture capital in Western Europe, which I was involved in learning about as the chairman of the international committee of the National Venture Capital Association, is different, because Eastern European venture capital was more like American, with startups and people leaving jobs and starting companies. Startups were not as popular or as common in post-war Western Europe as they were in [Eastern Europe]. But that's because a lot of Americans like me were wandering around, and it sort of fit people coming out from under Communism and Socialism.

06-00:12:07
Hughes: Would Boole & Babbage be a good company to talk about in terms of Pitch philosophies of venture capital? [chuckling]

06-00:12:31
Johnson: Well, yes. [interruption]. In 1967, I think is the right year—

06-00:12:50
Hughes: That's right.

06-00:12:51
Johnson: Draper and Johnson assets had been sold off to Sutter Hill. Bill was working at Sutter Hill, and I was on my own. A friend of mine in the city, he's still a good friend, John Bryan, said that he knew a couple guys in Palo Alto that had started a software consulting firm. They had an idea to build software which would be sold, or in this case leased, as packages to companies. Up to that point, people with their own computers had to write their own programs—they're called problem programs. They had operating systems that were provided by the supplier, normally IBM then, but they didn't have programs you could just drop in and do tasks.

Well, Ken [Kenneth W.] Kolence and David Katch were the two guys. Kolence and Katch Audit was their little consulting firm. They thought that you could build two kinds of programs for the then-IBM computers that were going to be coming on called the 360 series. It was a brand new series. So they had one kind of program which would make computers run better and could look at and see where other kinds of programs were spending their time and then give you programs that would help the computer run better to run problem programs. The other kind was called—that was called—PPE, Problem Program Evaluator. And then the other one was CUE, which was Configuration Utilization Evaluator. It helped you have the right number of disk drives and put the computer systems together.

Well, anyway, it was new because nobody had any kind of products like that before. There was only one other company providing software, packaged software anyway. The idea was you wouldn't have to write your own software. You could buy software from others. Well, it's common now. So to shorten this story down, I got together, myself and John, of course, who brought the deal in, and Bill Edwards, another friend, and we founded this corporation from the Kolence and Katch partnership, and they called it Boole & Babbage—[George] Boole being the first person to create the logic of software and [Charles] Babbage being the first guy to invent a computer. In fact, there's a model of his old engine down at the Computer History Museum right now.

But we had nothing to do with them other than just to name the company for them. So it got going and had some success, and we had the usual excitement and problems of a startup. I became chairman of the board pretty early on because I was the primary investor, and I worked with them much in the way I've been describing: trying to give them advice and help, and trying to keep their enthusiasm up because it was tough sledding. IBM wasn't in love with us because we were postponing people's purchases of computers. They didn't behave badly, they just—Then another company developed some software like ours and gave it away, but it wasn't as good. So in the end, we developed a commercial model. The company became successful, ran into some tough sledding—

06-00:16:44
Hughes: How long did it take to become successful?

06-00:16:46
Johnson: How do you define that? Start making money?

06-00:16:49
Hughes: Well, how do you define it? [chuckling]

06-00:16:50
Johnson: [chuckling] I probably have the years not quite right, but after about three or four years it became clear that the men that were managing it, the founders weren't really—they were good people, but they— So we brought in a guy—I think he sent his resume around—but he was a Harvard Business School graduate, a guy named Bruce Coleman. Bruce came in and became the executive vice president. But then the main founder, Ken Kolence and he didn't get along very well. After a while, it became clear that we had to make a change there, so we asked Ken to step aside. I said, "We've got to make a pitching change." But we were pretty good friends. He accepted it pretty well, and so we moved ahead. Bruce built a real good company there for quite a while, then he left to go with a great big company because he got a real good job there.

We had a couple of other managements, one other management that didn't work so well. We got a guy name Jack van Kinsbergen who took it public and made a good success of it. Then he left to do something else, so in the end, we brought in one of our directors to—because it was faltering a little bit. It wasn't losing money but it just wasn't growing. So one of our directors that had a strong success before coming on our board—Paul [Newton]—did really well.

We got into network programs to help networks run better. We sold the company for just about a billion bucks to BMC after—from 1967 to 1997—thirty years. Talk about patience! [laughing] So you couldn't do that in a venture fund. You could only do that as an individual investor, which I was. So we made out nicely in the end, and it was a public company. But then the stock went down a lot that we got.

06-00:19:20
Hughes: According to this document, which I got off the web, there was also a crisis with IBM that left the company with a lot of mainframes that were not—

06-00:19:49
Johnson: They had a bunch of products called 360 and then they had the 370. We evolved our product line to fit those, and as IBM, as those big mainframes became less the main processing source, they became more like big servers. But our real business, in the end, was products to help people manage networks.

06-00:20:19
Hughes: I'll just read you what this article says and you can, of course, disagree: "As the IBM computers on which Boole's software ran evolved, the company's product line started to become obsolete."

06-00:20:50
Johnson: We had then seen that and had begun to develop our network products. That's a correct statement, but they didn't become obsolete so fast that the business was suffering from that. It took us a while to get our network programs going, and then the network programs became important. That's a correct statement. Needless to say that the company also transferred its attention to network programs to avoid the whole company becoming obsolete. It was a slow spot, though, that's correct.

06-00:21:21
Hughes: Yes, and then it goes on: "An ill-advised investment in another software company made matters worse. By 1980 Boole was teetering on the brink of bankruptcy."

06-00:21:33
Johnson: I never felt it was teetering. Who wrote that?

06-00:21:36
Hughes: Answers.com.

06-00:21:45
Johnson: Oh. Well, I think if we hadn't been successful in the field of network management, I think we might have gone broke because our business was dropping off in our other products. Teetering—what's teetering, okay? We could have gone broke if we hadn't done something, sure.

06-00:22:04
Hughes: Well, I'm not trying to poke holes in the history of this company.

06-00:22:11
Johnson: Why not?

06-00:22:12
Hughes: [chuckling] Okay, I will. But I think it does illustrate another point—that you are willing to stick with things longer, somewhat because of your personality

and your loyalty to the people involved, but also because you have greater control.

06-00:22:35
Johnson: Well, yes, I felt that we could make a success of the company. Bruce left for a big job somewhere else. The guy that took his place couldn't do it. And then Jack van Kinsbergen did come in and built us into the network business. I don't know all the dates, but Jack took us public and then we had plenty of money then and we weren't teetering on bankruptcy. But before we went public, and before we bought Jack in, I would say we might have been able to see the handwriting on the wall, but we were doing something about it.

Now the chairman of the board is a mysterious job, whether it's an opera company or a real company, because the company is run by other people. But you try to exert influence and give advice and be a cheerleader. You help lead the decisions as to who's going to be the management, and I didn't make a very good choice after Bruce left.

06-00:23:35
Hughes: You take responsibility for that?

06-00:23:38
Johnson: Well, the board has too, and the board looked to me as their leader, and I was the one that suggested recruiting these other guys. I could have done a better job of that. I think I suggested them to the board. The board approved it, but I wasn't a dictator. They were letting me lead the way on who the management ought to be now. But I was right about Bruce, I was right about letting those other guys go, wrong about these other two guys, then I was right about Jack van Kinsbergen, and I was right about Paul Newton.

06-00:24:15
Hughes: Not a bad record.

06-00:24:39
Hughes: Are there two ways of exiting? IPOs and acquisition?

06-00:24:49
Johnson: Well, there's a third way called liquidation.

06-00:24:53
Hughes: Okay. [chuckling]

06-00:24:53
Johnson: It isn't too prosperous, you see, but if you have a company with lots of liquid assets, you could just pass out all the assets to people. But basically, take it public. Then two things happen when you go public, the investors usually don't get any money out because you don't have a secondary. Secondary means shares already issued being sold in the offering, so it's usually just a primary offering and that money all goes in the company. But then you establish a public market for the stock, and after a decent waiting period

defined by the agreement, thirty days, or ninety days, or 120 days, then you can begin to sell your stock into the market. Now sometimes there's a secondary component to an IPO in which you sell some of your stock as well as the company sells stock. Not common. So the company gets money to grow, the investors get some money out of it at that point, or they can if they want to by selling it in the market.

The second thing—mergers—some kinds of acquisitions you get a lot of cash. In the case of the BMC they gave us BMC stock for our Boole and Babbage stock, and they took over the company and merged it into BMC and we got BMC stock. A couple of years after the merger, the stock went down a lot though, just in the marketplace. We always told ourselves, we got a billion dollars for the company, but we didn't really. But it felt good to say that!

Paul Newton and I have stayed friends over the years, and we keep track of him. He made, as he should have,some good money from that few years he spent there. But Boole was a good example of a company that became thirty years old that never really succeeded greatly, went through some growing pains—could have had better guidance from me. But we eventually made it with patience, and with going public we felt pretty good. I could have sold out, sold my stock when it was public and got off the board, but I didn't. I just stuck with it, and it was kind of a career—a thirty-year career for me. It wasn't a job I got paid for, but it was my job as a venture capitalist to look after it. It was a pretty good example of a company that didn't fail and did pretty well, but didn't become a big deal.

06-00:27:23
Hughes: And also illustrative of your willingness to stick with things

06-00:27:50
Hughes: Is there any inherent virtue in an IPO over acquisition?

06-00:28:07
Johnson: Well, it keeps the company alive, and it can fulfill some larger growth aims. Normally you're acquired by a bigger company, so that the growth may be like that [indicating upward movement] and when you're acquired it goes like this [indicating downward movement]. If you're not acquired and you keep being successful, the growth rate can continue. So when you're acquired, normally that's the end of your substantial growth in your investment. So that's the disadvantage, but it's more risk—and sometimes they give you cash, so that's really it.

06-00:28:32
Hughes: And then in terms of the company itself often the culture becomes that of the acquiring company, right?

06-00:28:39
Johnson: Usually. Boole and Babbage disappeared inside of BMC. What they call our product called PATROL is one of their major projects. It was a very good

acquisition for them. I think it's gone up slightly in value, not from when we acquired it, but after the dip it's doing okay. I'm happy with it. We did the right thing.

06-00:29:04
Hughes: One of the big worries at the time that Roche acquired Genentech in 1990 was would the enterprising culture be destroyed?

06-00:29:23
Johnson: They didn't acquire it, for one thing, they acquired 60 percent of it.

06-00:29:26
Hughes: Okay, they acquired 60 percent.

06-00:29:28
Johnson: It wasn't folded into Merck—Merck deliberately kept it separate.

06-00:29:33
Hughes: Into Roche.

06-00:29:33
Johnson: I mean Roche. [Art] Levinson, the president, is a very independent guy. I'm sure that Roche is on the board and gets reports and all that stuff. But I think Genentech runs itself. It's a good company and it has good people in it. I don't know the Roche environment, but it is not instilled in or injected into Genentech.

06-00:30:08
Hughes: Can you give Roche some credit for that?

06-00:30:12
Johnson: Yes, I do. They didn't try to subsume it. I wouldn't say they left it alone either, but they just said, "Okay, we own a majority and you're not going to do stuff we don't want to do." But I don't know firsthand but I'm sure there have been some times when Roche said, "We'd prefer you not do that," or "Don't develop that drug." I bet because Art Levinson is such a good leader and a good scientist that they leave him alone as long as he's making good money. Now, if their growth rate stopped and if Avastin had some big problems and things slowed down, the growth rate stopped, then they might start trying to be more influential. But since I'm not on the scene up there, I have no idea what the relationship is.

06-00:30:56
Hughes: Yes, but it does bring up the question about the small startup entrepreneurial company in terms of culture as opposed to the big, established corporations. Can you ever get a Genentech or an Amgen at a Merk?

06-00:31:16
Johnson: No.

06-00:31:18
Hughes: Why?

06-00:31:19
Johnson: You can hypothetically do it. You could set up a division, back it, and say, “You guys got your company. We’re not going to interfere.” I can see them encouraging people, incentivizing people, and encouraging them to be responsible for their own division—and that happens. But it’s not like having your own company where you’re independent, [only] dependent on yourself, and the benefits of what you do accrue to your own employees and your shareholders.

06-00:31:56
Hughes: What has been your observation over the years about the entrepreneur as an individual? I’m thinking of the corporation/startup dichotomy.

06-00:32:18
Johnson: I guess I don’t understand the question. Do you mean how do I view entrepreneurs? Why are they different from people that work in companies?

06-00:32:23
Hughes: Yes, that’s a better way of saying it.

06-00:32:25
Johnson: Well, I think they treasure and love the independence. They love their feeling of being self-reliant, or a group bring self-reliant. They know that if they work hard and are right, in the end they’ll make some good money, which is certainly a primary aim. But they also can live with uncertainty, they can live with risk—they can sleep. I know people that *can’t* be in little companies—it just makes them too nervous. And they’re not good or bad people, they’re just people. So you have to be able to sleep when you have no idea what’s going to happen to you.

06-00:33:07
Hughes: Don’t you have to put yourself in that same category?

06-00:33:09
Johnson: Yes. Venture capitalists all learn how to sleep when things are going to hell. [laughter] George Quist said it best—a friend of mine who was a founder of Hambrecht and Quist. He said that venture capitalists sleep like babies—they sleep for an hour and they cry for an hour! [laughter] But I sleep fine. I’ve had nights when I’ve been happier than other nights, when I was worried about something, but I really have been able to get off to sleep and get a night’s sleep almost always.

06-00:33:43
Hughes: Do you think if you had been financially dependent on the investment would have made a difference? Or is it just your personality to do your best and that’s it?

06-00:33:54
Johnson: I don’t know. No one would call me low strung—they haven’t anyway. But when Draper and I first started out, we had no idea if we were going to succeed or fail. This is in the early sixties. I had a wife and four kids, a new family. I’ve always been able to cope with the risk even though it was unresolved.

But one night I never slept was a weird one. I was in Rome at the Rome Olympics and Russia—we were ahead of Russia in the final basketball game with a point, or something. Russia got the ball out of bounds after our last winning basket, and the guy stepped on the line and threw the ball all the way down the court, and the Russian forward dunked the ball in for the winning bucket. And the ref didn’t call that foul, and I was so hepped up, troubled, I was furious. The American team was all—it was Munich, I’m sorry. It was not Rome, it was Munich. I couldn’t sleep.

I got home and Cathie said—“Just calm down, it’s just a [game].” I said, “It’s not just a game, it’s the Olympic final.” [chuckling] I usually just go to the track meet. I don’t always go for the basketball. I love basketball. Nowadays it’s hard to get in basketball and swimming and other stuff I like. But I always just go for the track and field, called “athletics” in the Olympics. But it was such a bad call; it was an obvious illegal pass when you put your foot on the line and you threw it in. The American team was really furious. They did a bad thing—they didn’t show up for the medal ceremony, which I thought was bad sportsmanship, even if they were justified. But I slept very little that night. I slept better than that after many other difficulties. [laughing]

06-00:35:56
Hughes: Well, your sporting background has been a theme through the talk.

06-00:36:00
Johnson: Yes, I’m a son of a track coach and my dad was an Olympic athlete and all that. I like winning.

06-00:36:11
Hughes: But you also seem to believe in teamwork.

06-00:36:19
Johnson: Well, I’m a track athlete, so except on relay teams and when you’re scoring in dual meets, I’m not a teamwork guy like a basketball team or a football team. I fooled around with those sports in high school, but I’m basically an individual athlete.

06-00:36:31
Hughes: Well, I guess that analogy doesn’t work.

06-00:36:33
Johnson: But I felt very much a part of a team, because we used to have something called dual meets where you’d score a couple of points and then you’d be

Stanford against Cal and all that stuff. They still have that meet, but that's about all. So we had a team feeling, certainly a relay team you have that feeling. But I recognize teamwork, I like teamwork, but I also understand individual contributors and how important they are as well.

06-00:36:56
Hughes: You do seem to think that the venture capital industry is not just a question of finances or investment, it's a question of *involvement* from the get go.

06-00:37:21
Johnson: Oh yes. You can hardly find one venture capitalist who'll say it's a financial business. I don't think you've found many who've said that, because there's so much more to it. If it was a financial business, I'd make the investments and I'd go play golf every day. I don't do that. I should, though! [chuckling] .

06-00:37:36
Hughes: Well, we're running out of time, so maybe we should move to your role in the two venture capital associations.

06-00:37:47
Johnson: I would guess about 1958 or 1959, someone started the Western Association of Small Business Investment Companies, WASBIC. When Draper and I started our firm, in 1962, let's say it was a year before it was started—there were twelve members. There were only twelve SBICs and we met for dinner once a month.

06-00:38:09
Hughes: Twelve in the whole—

06-00:38:10
Johnson: In the whole Bay Area.

06-00:38:13
Johnson: So we had twelve members. There may have been other ones that didn't join, but it was a small number. Less than half were doing what you'd call venture capital. The rest were real estate and stuff like that. But we'd all have dinner once a month together in the City and talk about things and what we were doing, and it was very easy to get in somebody else's deal or somebody get in your deal. We all knew each other. It was just a small group.

In 1965 I was the president-elect of the Western Association of Small Business Investment Companies, but at that point Draper and I sold our SBIC, which we had formed in 1962, to Sutter Hill, and it was one of the origins of Sutter Hill's background, as you already know. So then I wasn't a small business investment company owner anymore, so I couldn't be in WASBIC. The Western Association of Venture Capitalists started sometime after 1965, having evolved from WASBIC. I became involved in that, became a director, and I was president for a term—after one year as program director. They make you be program director before you can be president so you get all the speakers.

06-00:39:41
Hughes: Were they both mainly promotional organizations?

06-00:39:46
Johnson: No. The WASBIC was just talk among ourselves about our problems of getting going. It was like any group that doesn’t know what they’re doing. They’re just trying to talk to each other and see if somebody knows something. National Association of Venture Capitalists was very clearly started to give us a forum to talk to each other, but [also] to deal with the federal government on issues of taxes and regulation.

06-00:40:11
Hughes: Did you lobby?

06-00:40:12
Johnson: We lobbied a lot, sure.

06-00:40:14
Hughes: And to what effect?

06-00:40:17
Johnson: Well, you call it lobbying, but we were trying to explain to congressmen and to committees and to the press that the creation of small businesses— A study had come out of MIT about 1979 by a guy named [David L.] Birch that showed that all the net new jobs in the United States came from companies less than ten years old. The big companies grew and the big companies shrank, but the net new jobs— I’ll bet it’s true now, and I’ll bet it’s been always true. The Depression, that’d be a different matter. So we had that information.

We convinced a certain number of senators— We’d have dinner with them or meet with them, and I did some of that myself, and convinced them that lower capital gains taxes, or treating them differently from ordinary income, people could invest money, take a risk, gain and then take it out and then reinvest it, that that was not the same thing as a salary.

There’s a big argument going on about that now, actually, for a different reason. Carried interest is treated as a capital gain and some congressmen are saying, “Well, it’s compensation, it’s not a capital gain.” And this is not the forum for that one. There was an important area where pension funds couldn’t invest in venture funds, because the trustees could have been held responsible for any failure within the venture fund. I don’t remember the year, but—

06-00:42:05
Hughes: 1978.

06-00:42:06
Johnson: Seventy-eight. That does sound right to me. We got that legislation changed, and I think I was on the board of NVCA, at that point. No, I think I was on the board after that. I think NVCA had an influence, but not with me on the board. But they did change the regulations so that it made it possible, basically, for pension funds to invest in venture capital firms without being considered reckless, because of the total exposure to many deals.

06-00:42:49
Hughes: And that opened up a huge—

06-00:42:52
Johnson: That opened up a huge amount of capital for venture capital firms.

06-00:42:56
Hughes: Te early eighties were a boom time for venture capital.

06-00:43:01
Johnson: Yes.

06-00:43:02
Hughes: Do you credit the ERISA [Employee Retirement Income Security] Act— Was that an element?

06-00:43:06
Johnson: Yes, it was. The ERISA Act opened up a lot of coffers for venture capital. Venture capital had a hard time getting noticed for a while. I remember a cartoon in the late sixties in the *New Yorker*, where there was a couple of prosperous-looking guys sitting in a club and one way saying, “Venture capital—whatever happened to venture capital?” [laughter] And then I remember students in my class saying, or one student in particular said, “It’s just an anomaly. It can’t exist. It’s from a discontinuity in the marketplace.” So we had that discussion in class.

I can’t give you the right dates, but WASBIC was my first affiliation in the early sixties. Then in the seventies I think the next thing was the Western Association of Venture Capitalists. I’m pretty sure I was president of that for a while. And then I can’t tell you when, but let’s just say late seventies or maybe early eighties I got involved as a director of the National Venture Capital Association and became the chairman of the international committee, [on] which I had a lot to do with building relationships with other venture capital associations in Europe in particular. So that was that.

You wanted to cover my class? You said you wanted to cover that.

06-00:44:35
Hughes: I want you to talk about your class, yes.

06-00:44:36
Johnson: Okay. So being a son of an English teacher and a coach, I've always thought about being a teacher. I never did, but in 1979, or was it '78 when it first came up? A friend of mine had been teaching a course in entrepreneurship at Stanford Business School, Greg [Gregor G.] Peterson. He was a Sutter Hill guy, by the way. He left to do something else; and they needed someone to take over his class in fairly short order. So he asked me if I'd go over there and interview the associate dean. Of course, I was sort of fascinated by the thought of it.

So in 1979, I accepted it, and I became something called a lecturer in management. It was a paid job. I took the pay—it wasn't all that much, but it was 15 percent of an assistant professor's pay, because I wanted to have the relationship, one of not being a volunteer. Somebody was hiring, and if they didn't like me they could fire me—and they didn't. So I took the pay and I started off. The first year I just used some canned cases. Then I began to use business plans from our own files here as examples.

06-00:45:59
Hughes: Had you gotten that idea from Harvard Business School?

06-00:46:04
Johnson: The case study, yes I had, from going there. But Stanford was a case-study school. I never thought about not using the case system. So I never thought about having a bunch of lectures. The next year I built a curriculum mostly of cases from our own files, and then I asked the entrepreneur in each case to come to class at the end of the discussion to comment on the discussion. But from pretty early on, because I was a venture capitalist, I told the students that if they'd like to not treat it like they're an entrepreneur but treat it like they're venture capitalists and pass judgments on the deals and whatever they'd like to do—the MBA candidates all love to pass judgment on things. So a lot of them took up that option.

Then after about three or four years, another guy named Irv [Harold Irving] Grousbeck came from Harvard. He came as a lecturer on management. He taught the course differently and put all his emphasis on the entrepreneurial side of it, and I was putting all of mine on venture capital. So the students wanted to take both courses. They didn't like the explanation,"You can't take both because they have the same number." So I changed the name of my course from *Formation of New Ventures* [to] *Entrepreneurship and Venture Capital*, and I gave it a new number of Business 353, I think it was. So then that became a venture capital course, and it was the first venture capital course taught in any business school that I know of.

06-00:47:54
Hughes: What year would that have been?

06-00:47:56
Johnson: Well, you know, it really began almost as soon as I began to teach. Let me guess, 1984 or 1985. I started teaching in ’79. From ’84 on it was a venture capital course. I did the same things, but I’d bring in the entrepreneurs who would then have heard the discussion. I taught one course per year of eighteen to twenty sessions, and it was a popular course.

06-00:48:41
Hughes: Did teaching all that time and interacting with bright minds change any thinking on your part?

06-00:48:55
Johnson: [pause] I’ll tell you what it did, it gave me a feeling that I should write a few things and I should talk about— It certainly led to my going to Eastern Europe in 1990, because I was thought of as a partly academic person. So when Bill Draper organized the trip, they began to treat me as if I knew something instead of just being a practitioner. Being a professor is a really big deal in Europe. Here it’s respected, but it’s not like a class apart. So I was called professor and all that stuff.

They called me professor at Stanford, but really we weren’t technically—our job was not professor. We weren’t in the tenure track. The other thing I liked about it was, I and the other practitioners who were teaching real estate and other things, who were *doers*, were treated extremely cordially and respectfully by the rest [of the faculty]. They’d be in faculty meetings, they’d ask our opinion and we’d speak up and people would listen.

06-00:50:00
Hughes: Do you think that that has something to do with Stanford’s culture? Since the times of Terman, Stanford has been known to reach out to the business community.

06-00:50:15
Johnson: I don’t know that. I think Stanford had an entrepreneurial course for a long time. My contribution was making it into a venture capital course. You asked me about exposure to bright minds. I’m eighty now, so in 1979 I would have been fifty-one, so I was not a spring chicken, by any means. I taught all through my fifties and I was sixty-three when I quit. I think being with young people, hearing new ways of looking at things, hearing how they view their own ambitions and view things is always refreshing. I’m involved with bright minds every day around here and around my companies, so that isn’t [it] as much as being involved with young people who have new ways of doing things, think new things, being exposed to the fact that the old way has to change. Since I’m exposed to bright minds all the time, I don’t think that was the experience. The experience was in *young*, bright minds that was good for me.

It opened up so many things—it opened the Eastern European trips. Bill might have taken me anyway, but he could advertise me as a semi-academic. And then I taught for a couple of summers in Berlin—for one week in another person's course in Berlin. There they *wanted* lectures. They could barely bring themselves to participate in a discussion like that. I've written some things, and one thing Hoover [Institution] published. So that whole academic side—whether it helped my venture capital career, I can't tell you, but it sure made an interesting facet of my life.

06-00:52:35
Hughes: Did it open up business opportunities?

06-00:52:41
Johnson: Well, because the students had to write business plans, I always passed them off to other people. I didn't want to be in the position of grading a guy's paper and then sitting down with him a few months later and negotiating a deal. So I passed along to other people some things that *did* become real companies. I've never backed a deal from a student. Then after I stopped teaching my class in 1990, I usually take one or two students a quarter who want to write business plans under my tutelage who hear about me or something, and I've had some fun with that.

One woman, who twenty years ago I was her advisor, started a venture firm in Barcelona, so another guy and I are going to get involved in that as investors. But I don't feel the slightest [hesitation]— That's too old to worry about.

06-00:53:33
Hughes: Your reputation from the few people that I've had the privilege to talk to so far is that you are an extremely ethical man.

06-00:53:58
Johnson: That's my self-picture, yes. I'm glad some other people think that too! Let me say this—the venture business was ethical from the beginning. With the guys and the women that founded the business, there's never been the slightest sense of you couldn't shake hands on something, or that someone would mislead you and not tell you something that you needed to know. I was only an example of a custom and a way of doing business in the venture capital business from the early days.

06-00:54:32
Hughes: Yes. But I think you were projecting a certain set of ethics too.

06-00:54:37
Johnson: Well, yes. I contributed to it and I took from it. But I could name half a dozen other guys that I think of as quite ethical. I didn't run into any problems. Now in the boom times of the late nineties, some sidewinders did come in that were so anxious to make money in a hurry that they cut some corners that the old guard wouldn't have cut. But I think all old guys say that! [chuckling]

06-00:55:00
Hughes: Well, Pitch, thank you very much for your time.

06-00:55:03
Johnson: It's been fun for me, yes!

[End Audio File 6]

[End of Interview]