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ARTHUR ROCK

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

Interviews conducted by
Sally Smith Hughes
in 2008 and 2009

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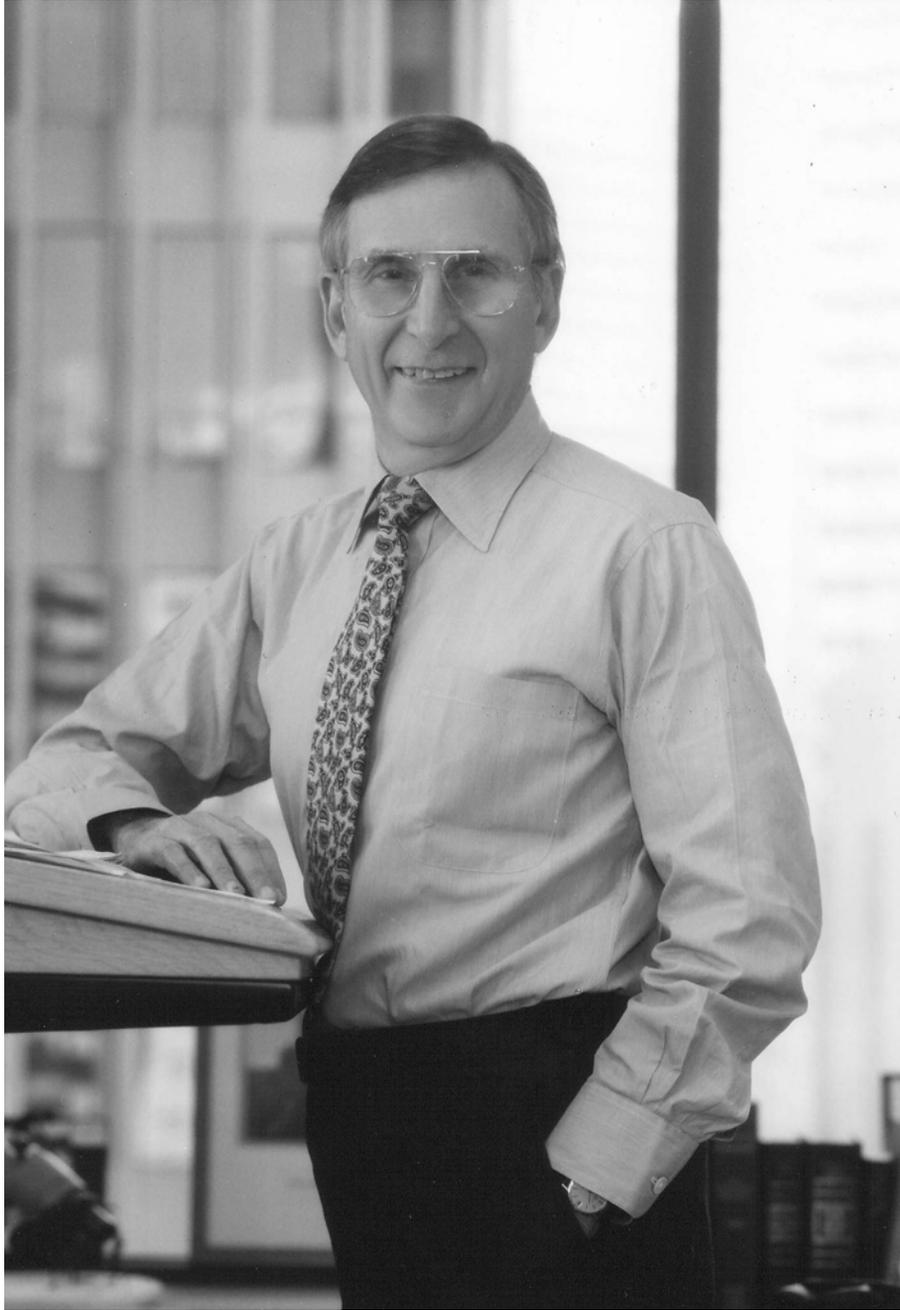
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Arthur Rock

Arthur Rock

Arthur Rock is Principal of Arthur Rock & Co. and was a partner in Davis & Rock from 1961 to 1968, both venture capital firms. Mr. Rock is also President of The BASIC Fund, which provides scholarships for inner city children to attend private schools.

He was Chairman of the Board of Scientific Data Systems and a member of the Board of Directors of Teledyne Inc., Xerox, Argonaut Insurance, Apple Computer, AirTouch, the Nasdaq Stock Market, and Echelon Corporation. Mr. Rock was a founder of Intel Corporation and served as Chairman of the Board, Chairman of the Executive Committee and lead director.

Mr. Rock has also served as trustee of the Visiting Committee of the Harvard Business School, the California Institute of Technology, San Francisco Museum of Modern Art, and the San Francisco Opera. He is a recipient of the Medal of Achievement of the American Electronics Association and the American Academy of Achievement, the Arents Pioneer Medal of Syracuse University, the Lifetime Achievement in Entrepreneurship & Innovation Award from the University of California, the Northern California Business Leader of the Year from the Harvard Business School Association, and the Commonwealth Club's Distinguished Citizen Award. He has been inducted into the Junior Achievement Hall of Fame, the California Business Hall of Fame, the Bay Area Business Council Hall of Fame, and the American Academy of Arts & Sciences.

Mr. Rock received a BS degree in Political Science and Finance from Syracuse University and an MBA from Harvard University.

Discursive Table of Contents—Arthur Rock

Interview #1: November 21, 2009

[Audio File 1]

1

Birth and childhood in Rochester, NY, father from Russia, mother of Polish descent—effects of immigrant parents, work in family candy store, selling newspapers—schooling, early interest in business as a career—army service: “the army and I agreed not to get along”—the G.I. Bill and Syracuse University—beginning of interest in politics—social life at Syracuse—a year as an accountant for Vick Chemical Company in NY, then Harvard Business School—first impressions of Harvard, classmates from privileged backgrounds—profound impact of HBS: “I learned what is possible”—Wall Street aspirations—HBS graduation in 1951 and job offer from Wertheim and Company—helping run NY State Young Republicans for Eisenhower-Nixon—move to Shields and Company, then Hayden Stone—work at Hayden, Stone: research on securities, interest in scientific companies—letter from Eugene Kleiner—traveling to California to meet Shockley scientists, decision to form and sell a company—approaching potential investors—agreement with Sherman Fairchild, without whom “Silicon Valley would not have been called Silicon Valley”—formation of Fairchild Semiconductor—comparing East and West Coast cultures—Stanford’s and Terman’s roles in helping to foster high tech companies.

[Audio File 2]

30

1960 formation of Teledyne with Singleton and Kozmetsky—board service, focus on ethics—leaving Hayden, Stone—decision to leave New York for California: “some of my friends thought I was nuts but they always do”—1961 formation of Davis & Rock—meeting Tommy David from the Kern County Land Company—a seven year partnership with Davis—limited awareness of Draper, Gaither & Anderson—investment in Scientific Data Systems—IBM—business climate in the 1960s.

Interview #2: January 27, 2009

[Audio File 3]

46

Intel’s beginnings: six of eight Fairchild employees—East Coast vs West Coast ideas about employees stock options, Scientific Data becomes one of the first companies to give options to most employees in 1962 or 1963—raising the money to start Intel in pre-fax, pre-email days—“I was 100% sure that Intel would succeed”—ERISA law in 1974 and changes in due diligence over the years—Intel highlights: management consisting of Rock, Bob Noyce, and Gordon Moore—1980s change in focus from memory chips to microprocessors—Intel becomes first company to give stock options to all

employees—first impressions of Steve Jobs and Steve Wozniak, investing in Apple on the recommendation of Mike Markkula—Apple’s rocky years, John Sculley’s 1983-1993 tenure as CEO, then Steve Jobs—Rock’s resignation from Apple when PowerPC ad emerged—Apple’s 1980 IPO, thoughts on Genentech and stock market trends—Intel and Apple operating their own venture capital funds—early 1980s Disonics fails in the face of competition from medical giants GE and Siemens, CEO failure to meet numbers—investing in people: “that’s my strategy and that’s my style”—changes in venture capital over the course of Rock’s career.

[Audio File 4]

69

Time magazine cover article in January 1984, unwanted publicity, “I didn’t need to have the word spread!”—personal philanthropic focus on K-8 education and scholarships, work with BASIC, Teach for America, KIPP, California Academy of Sciences—thoughts on CA as a setting for venture capital: Silicon Valley, Stanford, Fred Terman, culture of high tolerance for risk and failure—outlook for future of venture capital.

Interview #1: November 21, 2008
Begin Audio File 1 11-21-2008.mp3

01-00:00:02

Hughes: —you were born in Rochester, New York and that you came from a family who owned a candy store.

01-00:00:11

Rock: Correct. Right over there [pointing to a map? pointing to a photograph?].

01-00:00:14

Hughes: Oh really. I'll have to take a look afterwards.

01-00:00:16

Rock: Okay.

01-00:00:18

Hughes: I know you worked in the candy store—did that give you any ideas about what you might want to do in your future life?

01-00:00:27

Rock: Well, it gave me an idea that I wanted to do something commercially. I don't think I had any idea of venture capital. [chuckling]

01-00:00:41

Hughes: Yes. Well, there wasn't even the term at that point.

01-00:00:44

Rock: Well, that's right.

01-00:00:48

Hughes: Tell me a little bit about your parents.

01-00:00:55

Rock: My father was an immigrant from Russia, and my grandparents on my mother's side were immigrants from Poland.

01-00:01:04

Hughes: And came straight to New York?

01-00:01:11

Rock: As far as I know. To Rochester.

01-00:01:15

Hughes: Yes. I was meaning New York State. So your father spoke with an accent?

01-00:01:22

Rock: He did.

01-00:01:24

Hughes: Was Russian spoken in the home?

01-00:01:28

Rock: My parents didn't—well, it would have been Yiddish if they had spoken together, because Russian and Polish aren't exactly the same. But I think they made an extended effort to speak English.

01-00:01:43

Hughes: Sort of the immigrant idea of adapting to the new culture.

01-00:01:47

Rock: Absolutely.

01-00:01:50

Hughes: Do you think being—well, I don't what to call you—I guess it was the first generation, except for your mother, American. Do you feel that made any difference in how you looked at life?

01-00:02:05

Rock: Oh I'm sure. It had to.

01-00:02:10

Hughes: Can you articulate how it might have?

01-00:02:14

Rock: Well, if you're familiar at all with immigrant parents—all they were interested in was the success of their children, and there was never a question that I wouldn't go to college or that I wouldn't be a success. That was absolutely their motive in life.

01-00:02:39

Hughes: I see. And what kind of a household was it? Was it a—

01-00:02:44

Rock: A very poor household.

01-00:02:45

Hughes: Yeah, a very poor household. And a very disciplined household? How were you brought up?

01-00:02:56

Rock: I wouldn't say disciplined. I had to work during my entire young life.

01-00:03:08

Hughes: And you had to work because it was necessary.

01-00:03:10

Rock: Somebody had to be in the store, yeah.

01-00:03:12

Hughes: I see—and so that was just a given.

01-00:03:15

Rock: That was all given, and then I worked other places.

- 01-00:03:17
Hughes: Such as?
- 01-00:03:20
Rock: Well, when I was very, very young, I sold *Liberty* and *Saturday Evening Post* magazines from door to door.
- 01-00:03:28
Hughes: Oh really! [chuckling]
- 01-00:03:31
Rock: Then I worked in other—as a summer clerk in other confectionery stores, drug stores.
- 01-00:03:44
Hughes: Were your peers doing similar things?
- 01-00:03:46
Rock: Oh I think they had a much easier life.
- 01-00:03:50
Hughes: You were going to public high schools and public grammar schools all the way through?
- 01-00:03:57
Rock: Correct.
- 01-00:04:01
Hughes: And did you have a bent in any particular direction in terms of education?
- 01-00:04:07
Rock: No, I don't think so. I just took courses which would allow me to enter college.
- 01-00:04:15
Hughes: So that was really the thing.
- 01-00:04:17
Rock: And I was not a good student, at all.
- 01-00:04:19
Hughes: Really!
- 01-00:04:20
Rock: No. Very poor. I can remember my eighth grade teacher saying that I'd better take commercial courses in high school instead of academic courses.
- 01-00:04:37
Hughes: How do you account for your poor showing? Certainly not lack of brain power.
- 01-00:04:42
Rock: Well, maybe so. I don't know!

01-00:04:47
Hughes: [laughing] I somehow doubt that!

01-00:04:48
Rock: I think I was kind of rebellious.

01-00:04:54
Hughes: Were you?

01-00:04:57
Rock: I just did not do well in school.

01-00:05:01
Hughes: And I would gather from that that you didn't particularly enjoy it.

01-00:05:05
Rock: I did not enjoy it; I did not enjoy school.

01-00:05:08
Hughes: Did the after-school jobs, then, become kind of a release? That that's where you put your energy?

01-00:05:17
Rock: No. I don't think it was a release. It was just something I did.

01-00:05:23
Hughes: I see. Do you have brothers and sisters?

01-00:05:27
Rock: I had a sister who passed away very early, and I do have a brother who is twelve years younger than I am and we're quite distant.

01-00:05:39
Hughes: You mean geographically or emotionally? [chuckling]

01-00:05:40
Rock: Both. And agewise.

01-00:05:42
Hughes: Both and agewise and everything you can think of. All right, so no particular direction in terms of your future career as far as your early education.

01-00:05:57
Rock: No.

01-00:05:57
Hughes: No. You just thought eventually it was going to be business of some sort.

01-00:06:01
Rock: Of some sort, correct.

01-00:06:03
Hughes: Then why Syracuse University? Did you have anything else in mind other than—

01-00:06:11
Rock: Well, I went in the army for a year.

01-00:06:12
Hughes: Oh you did.

01-00:06:13
Rock: Yeah, I entered the army a year before the war was over and—

01-00:06:22
Hughes: Were you drafted?

01-00:06:24
Rock: I would have been drafted if I didn't volunteer. Yeah, I was eighteen years old. I went to Syracuse because they accepted me. A couple of other schools didn't.

01-00:06:42
Hughes: Is that so. [chuckling]

01-00:06:44
Rock: And also—I don't think I could have gone to school if it hadn't been for the G.I. Bill.

01-00:06:49
Hughes: Is that so? You just didn't have the money.

01-00:06:51
Rock: Yeah, correct.

01-00:06:54
Hughes: That was quite a bill, wasn't it? There were a lot of people—

01-00:06:56
Rock: It was fantastic, fantastic.

01-00:07:02
Hughes: Going back just a notch to your military service; were you sent abroad?

01-00:07:11
Rock: No. War was over before I—

01-00:07:15
Hughes: I see. Did that experience—

01-00:07:17
Rock: I *hated* the army! The army and I agreed not to get along. [laughter]

01-00:07:25
Hughes: Was it the regimentation?

01-00:07:26
Rock: Yes, of course. And having to report to people who I felt were not too bright.

01-00:07:33
Hughes: Yes, so you got out of there as soon as you could.

01-00:07:36
Rock: I did indeed.

01-00:07:40
Hughes: What happened at Syracuse other than more study.

01-00:07:43
Rock: Well, I did not do too well at Syracuse. I did better as the years went on. I got interested in politics at Syracuse, in the political scheme at Syracuse—student politics is what I meant to say.

01-00:08:04
Hughes: Oh really. And enough to run for an office?

01-00:08:08
Rock: Well, I was asked to run, to be president of the student council, and I elected not to. I don't know quite why I did that. But I was quite active. I also was asked to join the student honor society, which I did.

01-00:08:21
Hughes: Did that carry on after you graduated?

01-00:08:27
Rock: My interest in politics?

01-00:08:28
Hughes: Yes.

01-00:08:28
Rock: Yeah, it carried on when I moved to New York after Harvard. I became a young Republican, and as a matter of fact, I ran John Lindsay's first campaign, his primary campaign for Congress. That was in 19—must have been 1960 or '59, somewhere—'59 to '61, somewhere in there.

01-00:09:01
Hughes: At one stage did you have political ambitions?

01-00:09:06
Rock: No, I decided pretty quick that that wasn't the life for me.

01-00:09:13
Hughes: From—what was the—

01-00:09:13
Rock: Oh just what I observed and saw, and what it's necessary to do to be a politician.

01-00:09:21
Hughes: Mainly talk very smoothly and fast?

01-00:09:25
Rock: Well, yeah, but the give and take of it.

01-00:09:34
Hughes: The compromise?

01-00:09:34
Rock: Exactly, the compromise.

01-00:09:38
Hughes: So do I conclude from that that you're not a great compromiser?

01-00:09:41
Rock: Absolutely not. [Hughes laughs] No. I have very strong opinions on almost everything. [chuckling]

01-00:09:48
Hughes: So it's Arthur Rock's way or no way?

01-00:09:52
Rock: Or the highway!

01-00:09:54
Hughes: Yeah, or the highway! What did you major in at Syracuse?

01-00:09:59
Rock: I got a degree in business and in, I think, in political science.

01-00:10:06
Hughes: All right. Your two interests.

01-00:10:11
Rock: That's correct. Political science was a minor, as I recall now.

01-00:10:19
Hughes: Was there much of a social life?

01-00:10:22
Rock: Well, through the political—I joined a fraternity, and through the political life I had a decent social life.

01-00:10:35
Hughes: So it wasn't all work.

01-00:10:41
Rock: I didn't do much work.

01-00:10:42
Hughes: [chuckling] All right. And then Harvard Business School came right after that?

01-00:10:49
Rock: Well, I worked for a year between schools, in New York, as an accountant.

01-00:10:54
Hughes: For whom?

01-00:10:56
Rock: For the Vick Chemical Company.

01-00:11:01
Hughes: Oh—that makes the lozenges?

01-00:11:02
Rock: Vicks VapoRub. Right.

01-00:11:03
Hughes: Oh yeah, right. Do I ever remember that well as a child! [laughter]

01-00:11:08
Rock: Yeah, that company. It was a fairly large company at the time, but they sold out to somebody or other. I can't remember.

01-00:11:18
Hughes: Did you ever think that maybe accounting would be what you would do?

01-00:11:24
Rock: I thought that at one time. I wasn't sure.

01-00:11:32
Hughes: But do you like that kind of precision?

01-00:11:33
Rock: No, no. I didn't. It's too confined.

01-00:11:39
Hughes: And so did that job teach you that?

01-00:11:40
Rock: Pardon me?

01-00:11:41
Hughes: That job taught you that? I mean, you came to that conclusion during that year?

01-00:11:46
Rock: No, during that era. But I knew when I went into it that I wanted to go to graduate school.

01-00:11:52
Hughes: And you must not have done so poorly at Syracuse if you got into Harvard Business School.

01-00:12:02
Rock: Well, you can say that, but what really got me in was I made friends with the dean of the business school at Syracuse, and he was formally on the faculty at Harvard, and he recommended me to Harvard.

01-00:12:18
Hughes: I see.

01-00:12:18
Rock: So I don't know if I would have gotten in without that recommendation or not, but in any event—there I was.

01-00:12:25
Hughes: How had you met him?

01-00:12:27
Rock: Oh he was dean—

01-00:12:29
Hughes: Oh he was dean—

01-00:12:31
Rock: At Syracuse.

01-00:12:31
Hughes: At Syracuse. I see, I see. And he must have seen something in you.

01-00:12:38
Rock: Well, I think he may have, yeah.

01-00:12:42
Hughes: What could he have seen at that stage?

01-00:12:45
Rock: I don't [know] [chuckling].

01-00:12:46
Hughes: Ambition?

01-00:12:46
Rock: Probably, probably—probably.

01-00:12:51
Hughes: Well, tell me how it was to arrive at Harvard Business School. This must have been an experience for somebody coming from your background.

01-00:13:01
Rock: Oh it's quite an experience. First of all, Harvard was a name that is just in everybody's mind as being the top place to go. I never thought I'd go to Harvard.

01-00:13:17
Hughes: Yeah, no I bet. Was that intimidating in any way?

01-00:13:20
Rock: Oh of course! Of course it was intimidating, and then to meet all these students, mostly who came from Ivy League schools, that came from very privileged backgrounds. This was quite an experience for me.

01-00:13:44
Hughes: Did you ever feel that you were getting the short end of the stick because of where you came from?

01-00:13:51
Rock: At Harvard?

01-00:13:52
Hughes: At Harvard Business School.

01-00:13:53
Rock: No, no.

01-00:13:54
Hughes: No, no. So none of that.

01-00:13:56
Rock: It was pretty egalitarian.

01-00:13:57
Hughes: They looked at what you were and what you could do.

01-00:14:02
Rock: That's exactly right.

01-00:14:03
Hughes: And what to say about your classes?

01-00:14:09
Rock: Oh I enjoyed them a lot.

01-00:14:10
Hughes: Did you?

01-00:14:13
Rock: Yeah, I got a little better than average grades. Not great grades.

01-00:14:18
Hughes: Did you learn things that were going to prove to be very helpful later on?

01-00:14:26

Rock: Well, the main thing I learned was what's possible. I had no idea that the kind of things that they were teaching, and the people—I could reach that kind of level. I knew nothing about that life. And that's the main thing I got out of Harvard, I think.

01-00:14:52

Hughes: Explain that a little bit more—what kind of avenues did it open up in your mind?

01-00:15:01

Rock: Well, just that there was another life! There's Wall Street and stocks and bonds and being CEO of a company. This was something I really hadn't experienced or thought of, or had no way of knowing about. And the case method, of course, did a lot towards that.

01-00:15:33

Hughes: Really—Harvard is known for that, right.

01-00:15:37

Rock: Yes. I got a lot out of the discussions, and probably learned more in discussing the case outside of the classroom than I did in the classroom. Just the interaction with other students.

01-00:15:59

Hughes: Had any of those students actually been out in the business world, or were you all pretty much on the same—

01-00:16:07

Rock: Harvard has a policy of requiring that most of the students, unless there's some other reason, be in the business world for at least a year or two and sometimes longer. I think it's getting longer now.

01-00:16:23

Hughes: So that when you were having these conversations outside the classroom, people, to a degree anyway, were speaking from their own experience? Or what was it?

01-00:16:39

Rock: No, I don't think so. I think it was just the interaction.

01-00:16:42

Hughes: You liked the mix of ideas.

01-00:16:46

Rock: Oh yes.

01-00:16:57

Hughes: What about thinking about your own career? Where were you in that process?

01-00:16:59
Rock: Well, the further I went along, the more I was convinced I wanted to go to Wall Street.

01-00:17:06
Hughes: And why was that?

01-00:17:09
Rock: Because I liked creating businesses and I liked the money. I was not uninterested in money.

01-00:17:18
Hughes: Do you think that had something to do with where you came from? The fact that—

01-00:17:25
Rock: Oh of course. It was a discussion all the time, about how were we going to put bread on the table, so to speak.

01-00:17:32
Hughes: Yeah, yeah—so obviously money is a means to get somewhere.

01-00:17:37
Rock: To get, yeah—obviously.

01-00:17:41
Hughes: Were you at all unusual in that? Or were people frank about—part of my motivation—

01-00:17:50
Rock: Oh! That's the reason we were there!

01-00:17:52
Hughes: Well, but people don't necessarily admit that.

01-00:17:57
Rock: Oh I understand that!

01-00:17:58
Hughes: Yeah, but you think that definitely was the mo[tivation].

01-00:18:01
Rock: Sure.

01-00:18:05
Hughes: And there must have been some prestige involved in your thinking. Wall Street, after all, is quite an address.

01-00:18:13
Rock: Is part of what?

01-00:18:14
Hughes: Wall Street has an aura of prestige.

01-00:18:19
Rock: Yes.

01-00:18:20
Hughes: That is recognized worldwide, I would say.

01-00:18:22
Rock: Oh of course, yes.

01-00:18:24
Hughes: So in other words, it seems to me you were heading for the top right away.

01-00:18:27
Rock: Oh I think that's right.

01-00:18:29
Hughes: Is that characteristic of you?

01-00:18:33
Rock: I think so.

01-00:18:37
Hughes: All right, so—is there more to say about Harvard Business School?

01-00:18:46
Rock: Well, I also met some classmates who I did business with later on, and who helped each other.

01-00:18:58
Hughes: That's a common experience.

01-00:19:04
Rock: Yes, it is, of course.

01-00:19:05
Hughes: That people draw upon those classmates over the years.

01-00:19:08
Rock: That's exactly right.

01-00:19:10
Hughes: And vice-versa. I'm sure there were plenty of them drawing on you as well!
[chuckling] All right. Well, tell me about your arrival at Wall Street. I got the feeling that Hayden, Stone wasn't the first place you worked.

01-00:19:27
Rock: I worked at three places in ten years.

01-00:19:30
Hughes: All right.

01-00:19:30
Rock: I was on Wall Street for ten years, from '51 to '61. And I went to work in Wertheim and Company—it's no longer—none of these firms that I worked at are in business anymore—at Wertheim and Company.

01-00:19:49
Hughes: No why did you go there?

01-00:19:51
Rock: Because they offered me a job.

01-00:19:53
Hughes: [chuckling] All right. So this must have been about the mid—[fifties]? What was this?

01-00:20:00
Rock: 1951.

01-00:20:02
Hughes: 1951.

01-00:20:02
Rock: I graduated from Harvard and went down to Wall Street. They offered me a job.

01-00:20:08
Hughes: Was the economy pretty good—the post-war economy?

01-00:20:12
Rock: The economy was okay, but very few of my classmates went to Wall Street. I think 5 percent went to Wall Street compared to—up until this last debacle, maybe 40 percent or 30 [percent].

01-00:20:28
Hughes: Really!

01-00:20:28
Rock: Well, that's not true. More like 30 percent, I would guess.

01-00:20:33
Hughes: So you were very lucky.

01-00:20:34
Rock: I was very lucky. I got offered a job, and then—

01-00:20:39
Hughes: Now why, do you think, they offered you a job?

01-00:20:42
Rock: Well, they came and interviewed me, and came up to Harvard and interviewed me, and I think they—for whatever reason, they thought I would make a good trainee.

01-00:20:55
Hughes: You have no idea?

01-00:21:00
Rock: Well, I don't think that a lot of people even interviewed. I'm not sure.

01-00:21:03
Hughes: Oh really? They wrote a letter and either they got the job or they didn't?

01-00:21:10
Rock: No.

01-00:21:12
Hughes: Oh I see!

01-00:21:13
Rock: Someone from Wertheim and Company came to Harvard to interview.

01-00:21:20
Hughes: I see. And presumably interviewed quite a number of people, right?

01-00:21:26
Rock: Well, what I'm saying is that not many people went to Wall Street in those days. No, I think more of the graduates went either into consulting or into manufacturing or to some big company.

01-00:21:45
Hughes: I see. So you're saying that it wasn't so much that you were lucky; it was because you were one of the few who chose to take that direction?

01-00:21:52
Rock: I think that's right.

01-00:21:57
Hughes: Okay. What did you find at Wertheim? What was your title?

01-00:22:06
Rock: Associate, I guess. I enjoyed that. I got interested in running John Linsday's—no, that was—I'm sorry. I got interested in running—I ran New York State Young Republicans for Eisenhower-Nixon. To say I ran it was incorrect. I helped run it. So I quit Wertheim and went to work there for nine months or close to a year, and then when Eisenhower got elected I went to Shields and Company, and I didn't get along there very well.

01-00:22:59
Hughes: Are these all investment banks?

01-00:23:00
Rock: Yes. I say—all three of these, none of which are in existence, and I didn't get along too well with some of the people there, so I quit and went to Hayden, Stone.

- 01-00:23:16
Hughes: Any why Hayden, Stone?
- 01-00:23:24
Rock: Well, they were looking for somebody! [chuckling]
- 01-00:23:27
Hughes: So again, it was a job. It wasn't as though you had done a lot of research on these different companies.
- 01-00:23:33
Rock: Well, I'd done research. I could have gone a couple of other places, but—they were a fairly large firm and had done some things in areas I was interested in.
- 01-00:23:51
Hughes: Give me a feeling for what you *were* doing.
- 01-00:23:53
Rock: I was doing research on securities, but I was mostly interested in what then was the scientific companies.
- 01-00:24:05
Hughes: Really! Why did you go in that direction?
- 01-00:24:11
Rock: It was interesting and I thought there was an opportunity, and sure enough there was.
- 01-00:24:22
Hughes: Was this scientific companies everywhere in the country? Or was this pretty [much] still East Coast?
- 01-00:24:30
Rock: Well, it was pretty much East Coast. East Coast and Midwest.
- 01-00:24:33
Hughes: And you were interested because the science was going to go somewhere? Or what was it that drew you to this—
- 01-00:24:44
Rock: Well, yes, the science was going someplace, there was a business opportunity, and I enjoyed the people who were doing that kind of thing.
- 01-00:24:52
Hughes: Really. So the people count.
- 01-00:24:55
Rock: Oh yes, definitely.
- 01-00:24:57
Hughes: I should have told you right off that I'm not a business person; I'm a science historian.

01-00:25:08

Rock: Oh I know that.

01-00:25:08

Hughes: [chuckling] So excuse my naïve questions. But were you going out as an analyst to actually look at companies?

01-00:25:25

Rock: Yes.

01-00:25:27

Hughes: Oh you were. So that's how you were meeting the scientists.

01-00:25:29

Rock: Correct.

01-00:25:34

Hughes: And then talking to the scientists or everybody, to try to figure out what this company was about?

01-00:25:39

Rock: What they were about, and then writing it up for stock recommendations. It got sent out to customers of the firm to see whether they would buy stock in those companies that I recommended.

01-00:25:58

Hughes: I see. This seems quite a responsibility for a youngish person. You're being asked to evaluate a whole company that is doing, presumably, all kinds of diverse science.

01-00:26:18

Rock: Well, I don't know whether it was responsibility. I don't know that it was responsibility for a young person, because there were a lot of young people on Wall Street doing—

01-00:26:30

Hughes: Doing that kind of thing.

01-00:26:30

Rock: Doing that kind of thing, not primarily in the scientific fields.

01-00:26:34

Hughes: Right. How did you deal with the science?

01-00:26:41

Rock: How did I deal with it?

01-00:26:42

Hughes: Well, I mean, what are you talking about when you go to these companies and meet this scientist?

01-00:26:48

Rock: Trying to figure out whether the business is going to grow, if it's going to be profitable, what the products are, what is their research going into, what kind of products, and I try to figure out whether they're economically feasible and try to evaluate the management at all times.

01-00:27:21

Hughes: I see. Maybe it's a little early to interject this, but I've seen Arthur Rock quoted quite a few times. I can't think of the exact quote, but how you place emphasis on the people. Were you finding that at this early stage? That it wasn't just a matter of market or of pro[duct]—that the people count?

01-00:27:53

Rock: The people definitely counted.

01-00:27:56

Hughes: Well, how common an orientation was that? Was that something that Harvard Business School was telling you to pay attention to?

01-00:28:09

Rock: Well, look—I'm not a scientist, so I don't understand all of the science they're talking about, so I've got to decide on some method of [chuckling] making evaluations, so it occurred to me that I'd do that based on people.

01-00:28:29

Hughes: But you could have taken another route, it seems to me, and just look at economic profit, market—the people could drop out.

01-00:28:39

Rock: I don't think so. [chuckling]

01-00:28:40

Hughes: No, I know you don't, but I'm just wondering how unusual you were in putting *a lot* of stock in the people.

01-00:28:50

Rock: Well, I may have done a little more than most did, but I—

01-00:28:55

Hughes: You think it wasn't that uncommon?

01-00:28:58

Rock: Well, it was uncommon, but not greatly. [chuckling] I can't—it's difficult to say. But in my later life it was uncommon.

01-00:29:09

Hughes: All right. We'll get into that, I guess, all right. I don't know what else to ask about that particular stage. Do we want immediately to get into the letter from Eugene Kleiner? Or is there more to say before we get there?

01-00:29:36

Rock: No. I was very anxious to make my mark.

01-00:29:45

Hughes: I can imagine. So the famous story about—one way or another you hear from Eugene Kleiner. Do you mind telling that story again?

01-00:29:57

Rock: Oh no. I've told it over and over and over again, and I'm not—what I'm worried about is that I don't tell it the same every time! [laughter] But I think I do.

Gene Kleiner's father did business with Hayden, Stone, and when seven of these scientists who were at Shockley Laboratories decided they wanted to leave, and they thought maybe they'd go around looking for a job someplace—Gene Kleiner said, "Well, I've got this friend at Hayden, Stone. Let me write to him and see if he can find us a job where we can work together." So Rose Kleiner, his wife, wrote this letter to—I've forgotten the man's name at Hayden, Stone, who then showed it to me, and that's where it began.

01-00:31:06

Hughes: Now do you think he showed it to you because you were Hayden, Stone's science man?

01-00:31:13

Rock: Yes.

01-00:31:20

Hughes: So then what happened? You get the letter—

01-00:31:23

Rock: I got the letter and—

01-00:31:28

Hughes: And of course you didn't know Eugene Kleiner, per se, did you?

01-00:31:31

Rock: Oh not at all, not at all.

01-00:31:32

Hughes: Is it Fairchild yet?

01-00:31:38

Rock: No, not yet.

01-00:31:40

Hughes: It's Shockley. Was Shockley Semiconductor on your radar screen?

01-00:31:45

Rock: Oh I'd never heard of the man—oh that's not true. I had heard of him, because we had done another deal—we had done the first deal in semiconductors at

Hayden, Stone—General Transistor [Corporation], so I was somewhat familiar with the field.

01-00:32:01

Hughes: Where was General Transistors? Was that a West Coast company?

01-00:32:07

Rock: No, no. Long Island.

01-00:32:08

Hughes: I see, okay.

01-00:32:10

Rock: They made germanium transistors, whereas Shockley was working on silicon transistors. So I got this letter and I looked into it a little bit and went to one of the partners and said, “I think we ought to go out to California and see these guys.” So they agreed. I did go out with one of the partners and we saw the seven and decided that we’d form a company and then try and sell the company to one of the companies that we knew were looking to go into that business, or go into some kind of scientific—this was after the war when all these companies said that they wanted to expand into the scientific areas, so we—

01-00:33:22

Hughes: Why was that? Was that [Vannevar] Bush and the endless frontier?

01-00:33:26

Rock: Yeah—also most of the businesses that companies did were only an extension of what they did before the war. And then they got—war was over and then they had all these backlogs to fill and people wanted all kinds of devices—automobiles and washing machines, but they’d made those all before. People just needed them in greater quantity now. So they all said—this was common at that time—that the companies said they wanted to go into R&D and get into more science-based activities.

So then we came back again, and by that time they had talked Bob [Robert N.] Noyce into joining them, so that now they were eight. And we did form this company, and then I had the job of trying to locate someone who would invest in them. There was no venture capital—that isn’t quite true—there was a little venture capital; there was Laurance Rockefeller and Associates and the Whitneys, but they were kind of provincial in what they were doing.

01-00:35:10

Hughes: And they weren’t calling it venture capital.

01-00:35:12

Rock: Oh no, no. I don’t know what they were calling it.

01-00:35:18

Hughes: Pitch Johnson talked about private situations.

- 01-00:35:22
Rock: Private placements, or something like that.
- 01-00:35:25
Hughes: Private placements.
- 01-00:35:31
Rock: So we got up a list of some thirty or thirty-five companies who had expressed an interest in doing some of these far out things, and so I went around and saw all of them.
- 01-00:35:59
Hughes: Now are they all over the country?
- 01-00:36:03
Rock: I either saw them or wrote to them or called them, or somehow.
- 01-00:36:07
Hughes: Now would—
- 01-00:36:08
Rock: Primarily in the East though.
- 01-00:36:13
Hughes: And were they thinking in terms of risk capital—what we would now call venture capital investments?
- 01-00:36:23
Rock: Well, that was part of the problem, that they didn't quite know what this involved. [brief interruption]. So these companies, they didn't know quite what they wanted to do. They were from airplane companies to battery manufacturers, and I got turned down by all thirty-five!
- 01-00:38:06
Hughes: Right. How did—I'm trying to picture how you did this. You called up in advance, made an appointment, and then whom did you—
- 01-00:38:19
Rock: In some cases—normally the chairman, the CEO, the president. I don't think they had C[EOs]. CEOs was not a term in those days. It was president.
- 01-00:38:28
Hughes: President, yeah—but what was your pitch?
- 01-00:38:32
Rock: Well, here's an opportunity to do something big—a new field, new science. I would say at least half of them were very, very interested. But they turned us down because they didn't know how quite to integrate this with their culture. They thought it would be a big detriment to the people who were working in their company if they set up a separate subsidiary whereby the founders could make a lot of money, which is very common today. But at least half of them

said, “Gee, we like this idea. We’d love to do it. If they want to come to work for us, that’s fine, but we’re not going to set up a separate company.”

01-00:39:29

Hughes: So the culture was against it.

01-00:39:33

Rock: Oh yes, definitely, definitely.

01-00:39:37

Hughes: And that was across the board.

01-00:39:39

Rock: Absolutely.

01-00:39:43

Hughes: Was it just too heavy an investment to think of a bunch of private individuals to invest?

01-00:39:52

Rock: There was no mechanism to do that then.

01-00:39:59

Hughes: Were you getting discouraged?

01-00:40:01

Rock: Well, I was getting discouraged until we ran into Sherman Fairchild.

01-00:40:05

Hughes: [chuckling] And how did that connection evolve?

01-00:40:10

Rock: Well, someone at Hayden, Stone knew Sherman [M.] Fairchild and introduced me to him. Sherman Fairchild was a most interesting man, very interested in all kinds of things, and he had invented the aerial camera, which was used in the war. Then they found that they couldn’t fit the camera into any of the airplanes, so *that* company then became Fairchild Camera and Instrument. It made the camera, and then they couldn’t fit this camera into airplanes. I guess the airplane manufacturers were unwilling to redesign their airplanes to accommodate the camera, so he then invented an airplane. And that company—yeah, that was called Fairchild Airplane Company. And he had all kinds of interests. He was just very—I guess the word’s eclectic.

01-00:41:30

Hughes: What was he by training?

01-00:41:33

Rock: Well, Sherman Fairchild’s father was the original backer of Tom Watson in forming IBM, and they were equal partners, although Fairchild didn’t have much to do with the operations of the company. He was just a financial backer. Well, it turns out that Tom Watson had, I think, seven children, and

Sherman Fairchild was an only son. So Sherman Fairchild, after Tom Watson died and Sherman Fairchild's father died, Sherman Fairchild then was the biggest owner of IBM stock. So that's where his money came from.

01-00:42:26

Hughes: Yeah, that would do it.

01-00:42:27

Rock: So he could do anything he wanted. He was a very wealthy man.

01-00:42:32

Hughes: But as you well know; you don't need me to say this, it's not just having a lot of money, it's having—

01-00:42:38

Rock: No, it's brains!

01-00:42:38

Hughes: It's having the imagination or the—

01-00:42:41

Rock: Oh—well, this man had incredible imagination. So he liked the idea, and he liked the guys. We introduced—they all came East and met him, and he liked them. And then he told Fairchild Camera and Instrument that they were going to do this. I guess he was chairman of the board of Fairchild Camera and Instrument; I'm not sure. But he had enough clout there that he just told them they were going to do this.

01-00:43:12

Hughes: Do you think—in the way you're telling it—I definitely get the strong message that if it hadn't been for Sherman Fairchild, the company wouldn't have done it.

01-00:43:23

Rock: I think that the entire semiconductor industry—let me put it another way: Silicon Valley would not have been called Silicon Valley.

01-00:43:31

Hughes: Really.

01-00:43:35

Rock: I don't think so. I think these seven guys, eight guys, would have gone off—

01-00:43:40

Hughes: Because they would have had to split up.

01-00:43:42

Rock: They would either split up or maybe they would have gone to Texas Instruments, who was starting in the same field. I don't know that. I mean, nobody knows that, but they would have split up, probably, and they—

01-00:44:00
Hughes: That's an interesting thought, isn't it—how many things would have been very different. [chuckling]

01-00:44:06
Rock: Oh yeah.

01-00:44:06
Hughes: Well, and you have to take some credit for that.

01-00:44:10
Rock: Well, I hope so!

01-00:44:12
Hughes: I know. So these eight people, who appeared before Sherman Fairchild—what were they like as individuals? Were they very helpful in what you were after—namely, getting some money to get the venture off the ground?

01-00:44:31
Rock: Well, they knew what they had to do.

01-00:44:33
Hughes: Which was sell the idea.

01-00:44:35
Rock: Yeah, yeah.

01-00:44:36
Hughes: And they were good at that, because I'm just thinking—these people have just emerged from laboratories.

01-00:44:41
Rock: They were purely academic. They had just gotten their PhDs and had been at Shockley for maybe a year.

01-00:44:50
Hughes: Was that all?

01-00:44:53
Rock: I think so. I'm not sure. I can't remember.

01-00:44:55
Hughes: Well, whatever—not very long.

01-00:44:57
Rock: Not very long in any event.

01-00:44:58
Hughes: So Shockley must have turned them off pretty quickly then.

01-00:45:03
Rock: Oh he was a very difficult man. Extremely difficult.

01-00:45:10

Hughes: Maybe it's fortunate for all of us that he was.

01-00:45:14

Rock: I'd like to think so. [chuckling] Certainly for me!

01-00:45:19

Hughes: I'm trying to visualize Sherman Fairchild in his president's office, or wherever he was—and you troop in with these eight guys. Do they know enough even to dress up to East Coast standards?

01-00:45:37

Rock: Probably. I don't think so.

01-00:45:39

Hughes: No. But maybe that was good. Maybe they looked like scientists.

01-00:45:44

Rock: Well, they did look like scientists. [chuckling] They did look like scientists.

01-00:45:51

Hughes: Is that meeting fresh in your mind?

01-00:45:54

Rock: No, that meeting is not. But anyway, it worked out, and so we formed this company. So then we actually formed the company, and it was called Fairchild Semiconductor. Fairchild Camera and Instrument invested \$1.5 million, for which they got an option to buy all of the stock that the eight held plus Hayden, Stone for \$3 million. That was a lot of money in those days. That stock was divided—each one of the eight got 10 percent of the stock, and Hayden, Stone got 20 [percent].

01-00:46:55

Hughes: Who set up that division?

01-00:47:01

Rock: Probably I did.

01-00:47:04

Hughes: Because that becomes somewhat of a model, does it not?

01-00:47:07

Rock: Oh that's now the 80/20 deal that all private companies are doing.

01-00:47:10

Hughes: Yeah—do you remember that being somewhat arbitrary? How did you get to—

01-00:47:17

Rock: Well, it just seemed so simple. Here are these eight guys. [laughter]

01-00:47:22
Hughes: If there had been six it would have been a different ratio!

01-00:47:27
Rock: It would have been a different ratio. I thought 20 percent was about right for Hayden, Stone.

01-00:47:34
Hughes: Now were these sophisticated people in terms of equity ownership?

01-00:47:41
Rock: No, not at all.

01-00:47:43
Hughes: So you were the ones that said, "You need to have 10 percent of this deal."

01-00:47:49
Rock: Right.

01-00:47:51
Hughes: Because I'm imaging that what they were more interested in was: We need a place to work and we want to work together.

01-00:47:57
Rock: That's exactly right.

01-00:48:04
Hughes: So then what? What about a place; what about a facility?

01-00:48:09
Rock: Well, they now had \$1.5 million and they went out and rented or bought—I think they rented a small facility and furnished it, and got all the lab equipment they needed—and it turned out transistors after a while.

01-00:48:29
Hughes: Yeah, was Shockley mad as Hades?

01-00:48:33
Rock: Oh he wouldn't talk to any of the eight of them ever.

01-00:48:36
Hughes: Yeah, I bet.

01-00:48:39
Rock: He called them the Treacherous Eight. I think that phrase is pretty well known.

01-00:48:46
Hughes: Did you ever have any of that tarring by the same brush?

01-00:48:53
Rock: Well, I don't know. I never met the man, so I don't know whether he included me.

01-00:48:59
Hughes: I doubt you were on his favorite list.

01-00:49:02
Rock: Well, I don't even know that he knew that I existed.

01-00:49:04
Hughes: Well, that could be. And then you went on the board, right?

01-00:49:10
Rock: No, I did not.

01-00:49:10
Hughes: You did *not* go on the board! Why?

01-00:49:13
Rock: Because Hayden, Stone felt that one of their partners ought to go on the board, being an elder statesman, so to speak.

01-00:49:22
Hughes: Oh—did that irritate you?

01-00:49:24
Rock: Not particularly.

01-00:49:32
Hughes: Did that more or less cut off your tie with the—

01-00:49:37
Rock: No, not at all. I became very friendly with all of them, some more than others, obviously. Oh no, then I started coming out to California, to not only see what was going on there, but I got interested in other kinds of companies here and that then opened my eyes to what could be done then out here. And so a couple of years later I left Hayden, Stone and formed the Davis & Rock partnership.

01-00:50:13
Hughes: Well—say more about that. Because there are all kinds of things that I think are going on here. One of them is what I'm imagining is quite a different culture than you've been used to on the East Coast.

01-00:50:26
Rock: Absolutely. Just as dress, as you said.

01-00:50:31
Hughes: Yeah, yeah, the dress—but more than that too, right? I'd rather have you use the words. But how do you, when you think about those days at Hayden, Stone and the other positions that you'd had on the East Coast and then flash yourself over to the West Coast and talking to the group, the eight, or whomever you care—how did the conversation go differently and how was the mindset different?

- 01-00:51:12
Rock: Well, I can't tell you how it was different, but it certainly was different. These people, most of whom came from the East Coast—most of them were schooled at MIT or Harvard or Princeton. I don't know—I don't think there were any Princeton people, but—you know, there has to be a certain drive to move out West.
- 01-00:51:46
Hughes: True.
- 01-00:51:48
Rock: You know, Go West, young man—so that these people were different. Not only the Fairchild people, but most of the people out here. And then of course, there was Stanford.
- 01-00:52:05
Hughes: Right.
- 01-00:52:06
Rock: Which played a big role in this whole transition.
- 01-00:52:10
Hughes: Well, talk a little bit about that.
- 01-00:52:16
Rock: Well, the Stanford provost, or I don't know if he was provost—
- 01-00:52:21
Hughes: No, I think he was a provost first, yeah.
- 01-00:52:25
Rock: Terman.
- 01-00:52:27
Hughes: Terman.
- 01-00:52:28
Rock: —had the idea that—well, go back. At Harvard and Yale and MIT, professors had to work full-time at being professors, and Terman had the idea that he could let these professors loose, one day or two days a week and do other things. So a lot of them, then, were able to set up companies, small little companies, where they could try to commercialize some of their ideas. And then Stanford had all this land, so they allowed this land—they allowed some of their people to build companies on their land. And so it was a natural for people to migrate out here.
- 01-00:53:35
Hughes: Right. With the university more or less as the nucleus.
- 01-00:53:40
Rock: Correct.

- 01-00:53:40
Hughes: Was that already Stanford Industrial Park? Or was it still—
- 01-00:53:47
Rock: Oh no, no.
- 01-00:53:48
Hughes: It was much more informal than that?
- 01-00:53:50
Rock: Well, Stanford Industrial Park was—yeah, it was much more informal. No, this was individual companies. Stanford Industrial Park was an industrial park. No, they just leased some land from Stanford on a—I guess, a ninety-nine year lease, or whatever. But Terman was really responsible [sound of sirens outside] for a lot of what has happened out here, in my opinion.
- 01-00:54:22
Hughes: Thinking of some of the tension that occurs on our own campus nowadays, although less so, about what some people see as the rapid commercialization of the academy—were you ever aware that Terman was criticized by academics for being so friendly to industrial endeavors?
- 01-00:54:49
Rock: Oh sure.
- 01-00:54:49
Hughes: Yeah, he was, and it just slipped off his shoulders?
- 01-00:54:52
Rock: Oh I think so.
- 01-00:54:54
Hughes: Yeah, and of course, being provost and then he became dean, didn't he? I can't—anyway—
- 01-00:55:02
Rock: I can't remember his first name, maybe it was Fred.
- 01-00:55:01
Hughes: Anyway, he had a position at Stanford, that I imagine, to a certain extent he was untouchable—that there weren't too many people that could rein him in.
- 01-00:55:14
Rock: Oh I think so. I don't know that.
- 01-00:55:18
Hughes: Yeah, but that's interesting that you give him a great deal of credit for getting things started.
- 01-00:55:24
Rock: Oh yeah.

01-00:55:32

Hughes:

All right. Where next? [laughter] We could spend all the time on what became of the semiconductor industry. But—I know one thing that I'd like to hear from you though—we've spoken of the famous eight only as a group. And some of them, at least in my mind, stand out more than others. But is that fair? I mean, for example, there's been a wonderful biography of Bob Noyce and then Eugene Kleiner, because of his connections with venture capital, but what about the others? How do they stand in your mind as individuals?

01-00:56:26

Rock:

Well, they're all different, and some of them made a bigger contribution than others. No question about it.

01-00:56:42

Hughes:

But quite an impressive group, nonetheless.

01-00:56:43

Rock:

Oh yeah. Shockley had the ability—he had won the Nobel Prize, and he could call anybody up and say, "I want you to come work for me," and they'd drop everything they were doing and go.

01-00:57:01

Hughes:

Okay. Well, all right. [interruption to change tape]

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02-00:00:01

Hughes:

So Fairchild Semiconductor and then, while you're still at Hayden, Stone—Teledyne.

02-00:00:22

Rock:

Teledyne.

02-00:00:22

Hughes:

In 1960.

02-00:00:28

Rock:

I'd been making trips out to California and worked my way down to Los Angeles. Someone there—one of my acquaintances, introduced me to Henry [E.] Singleton and George Kozmetsky. And then a few months or several months later, they called me and said that they were going to leave Litton Industries, where they were employed, and try to form their own company, and would I be interested in helping them raise the money.

02-00:01:17

Hughes:

Had you, by now, somewhat of a reputation—

02-00:01:25

Rock:

Somewhat. Yeah, they knew who I was. So I said, "Sure," and it was no problem, but their reputation at Litton Industries was extremely good. Henry Singleton may have been one of the two or three smartest men I've ever met.

02-00:01:49

Hughes: Is that so.

02-00:01:50

Rock: Very, very intelligent, and it showed very quickly. He had invented the degaussing system for naval ships, submarines, to get rid of the electricity so that enemy submarines couldn't detect the electricity coming out of the submarine or whatever. That was a very, very important invention. And then while at Litton, he invented the inertial guidance system, which made possible—satellites. He was an MIT guy and a PHD, but he didn't like doing that stuff anymore. He wanted to run a company. And George Kozmetsky had been a professor at the Harvard Business School and had worked with Henry, so the two of them decided that—they ran what was called the Electronics Equipment Division of Litton Industries.

So anyway, they decided that they would form a company, and I agreed to help them raise the money. I've forgotten how much money we did raise, but whatever it was it was—

02-00:03:21

Hughes: Two hundred thousand.

02-00:03:24

Rock: Two and a half million?

02-00:03:25

Hughes: Well, I have only \$200,000.

02-00:03:29

Rock: No, no, no, no.

02-00:03:30

Hughes: Oh no, I'm sorry, that was shares.

02-00:03:39

Rock: But it was several million dollars in any event.

02-00:03:44

Hughes: That's obviously misinformation. I don't know where I got that. What I have written down, and unfortunately I didn't put the reference down is "Mr. Rock, through Hayden, Stone arranged a private placement of shares in Teledyne to the amount of \$200,000. No?"

02-00:04:11

Rock: No. Everything's right but the number.

02-00:04:14

Hughes: I got that from Wilson's book, *The Venturers*, but he must have gotten it wrong.

02-00:04:21
Rock: It's wrong.

02-00:04:22
Hughes: Okay, sorry.

02-00:04:24
Rock: Well, that's all right. I can find out for you. It was several million, in any event.

02-00:04:32
Hughes: Now were you going—in each of these things, are you going back to more or less the same group of investors?

02-00:04:40
Rock: We had done a couple of deals like this. We had a coterie of people who invested.

02-00:04:48
Hughes: Yeah, and they're getting pretty pleased with you, aren't they?

02-00:04:51
Rock: Yeah.

02-00:04:51
Hughes: So is it getting easier and easier each time?

02-00:04:54
Rock: Oh yeah. So they went about their business, and I did go on the board there. And at that time, I told them that I was thinking of leaving and forming a venture capital firm, and would they be interested in that.

02-00:05:25
Hughes: Hayden, Stone?

02-00:05:25
Rock: No, no. Hayden, Stone knew I was doing it also and they were interested, but I asked Singleton and Kozmetsky, at the time we were doing their deal, whether they would be interested in being limited partners at Davis & Rock.

02-00:05:41
Hughes: I see, I see.

02-00:05:42
Rock: And they said they would. In that way, not only did I get some stock from Hayden, Stone, but I also then got stock for Davis & Rock. We exchanged stock for the partnership interest, so we had a pretty big interest in Davis & Rock and in Teledyne. And of course that grew up to be a fantastic company.

02-00:06:13
Hughes: When they decided that they were leaving Litton, they had a very specific idea of what they wanted to commercialize?

02-00:06:26
Rock: I don't think so. I think their idea was to buy up companies and run them better, and that's exactly what they did.

02-00:06:39
Hughes: That was your first board membership, right?

02-00:06:43
Rock: No, I had a couple smaller ones in deals we did, but they didn't amount to much.

02-00:06:51
Hughes: Was that in itself a learning experience? Or were you just—

02-00:06:58
Rock: Oh yes.

02-00:07:00
Hughes: Talk to me a little bit about being a board director—I mean at that stage and what you felt was important to convey.

02-00:07:13
Rock: Common sense.

02-00:07:15
Hughes: [chuckling] Yeah?

02-00:07:17
Rock: Just listening to them and trying to figure out if what they wanted to do made sense, and then being able to relay that information to them. I was always very interested in the ethics of what they were doing, and was what they were doing—did it make sense not only from a business point of view, but from an ethical point of view—a lot of things you can do that aren't ethical in the business world.

02-00:08:08
Hughes: You don't say! [laughter] Well, you seem to be going through a period where that is quite evident.

02-00:08:18
Rock: {unclear}

02-00:08:21
Hughes: But why did you take that particular emphasis on?

02-00:08:26
Rock: Pardon me?

02-00:08:26
Hughes: Why did *you* take that particular emphasis on? You could run things ethically, which I'm sure you did, but it's a step beyond to then have that be one of your messages as a board member.

02-00:08:45
Rock: Well, it's so easy to fudge a little bit, so it behooves somebody to think about the consequences of those kind of things.

02-00:08:56
Hughes: And did you find you had receptive ears?

02-00:08:59
Rock: Oh yes.

02-00:09:05
Hughes: Where did that come from as far as you were—

02-00:09:10
Rock: It's just the way I operate.

02-00:09:13
Hughes: Maybe going way back to your family of origin?

02-00:09:16
Rock: Probably.

02-00:09:21
Hughes: What more to say about Teledyne?

02-00:09:32
Rock: [pause to think] Well, you know, it became a fabulous company until Henry died, and if he had a fault it was that he didn't choose his successor or successors very well, and the company kind of fell apart after he left.

02-00:09:56
Hughes: Were you still on the board?

02-00:10:00
Rock: I resigned after a while, yeah. Henry was still alive when the company started to fall apart, but he was no longer CEO; he had kind of left the company.

02-00:10:14
Hughes: And then as you've mentioned, you're about to leave Hayden, Stone. I'm just wondering what people—again, it's my image of an investment bank, which may or may not be accurate, as being quite a conservative place, and yet this Arthur Rock isn't being very conservative, by East Coast standards, it seems to me, going out in the Wild West and investing in all these risky businesses.

02-00:10:48
Rock: Oh yeah, definitely!

02-00:10:49
Hughes: So were they just as glad to see the end of you?

02-00:10:54

Rock: Oh I don't think so. I was making a lot of money for them! [chuckling]

02-00:10:57

Hughes: Oh there is that, isn't there! So then it was probably the opposite—that they probably did *not* want you to go.

02-00:11:14

Rock: Probably not. They did have to put up with a little bit, though.

02-00:11:21

Hughes: And what, in the end, was the tipping point for you? To decide to leave and to go.

02-00:11:28

Rock: Oh I wanted to be on my own.

02-00:11:31

Hughes: Uh-hmm. Had that for some time been your ambition?

02-00:11:35

Rock: Oh I think so. And also, I had grown very fond of people out here and saw the opportunities and it certainly occurred to me that all the money was on the East Coast, and all the good opportunities were on the West Coast, and maybe I can bring some East Coast money to the West Coast, which is what I did.

02-00:11:57

Hughes: Yeah, yeah, so you were kind of the liaison between coasts.

02-00:12:01

Rock: So to speak.

02-00:12:01

Hughes: Yeah, what about the culture of the West Coast, just in terms of your personal lifestyle and deciding, well, at least in the near term, that this is where you were going to be, this is where you were going to live. Did you have any regrets about leaving the East?

02-00:12:23

Rock: Oh I love New York, yeah. I like San Francisco more, though.

02-00:12:28

Hughes: So moving was not a problem for you personally.

02-00:12:36

Rock: No, I don't think so. I looked forward to it. Some of my friends thought I was nuts, but then they always do.

02-00:12:44

Hughes: All right. So the next step as I see it, and correct me if I'm wrong, is Davis & Rock.

02-00:12:54
Rock: Correct.

02-00:12:55
Hughes: Founded in 1961.

02-00:12:57
Rock: Correct.

02-00:12:57
Hughes: I know you've told that story, but please tell it again about how you met—

02-00:13:03
Rock: How I met Tommy Davis?

02-00:13:04
Hughes: Tommy Davis.

02-00:13:06
Rock: Well, a friend of mine—who I'd met out here, introduced me to Tommy, and he was with a company called Kern County Land Company. He was a lawyer, but after the war he decided he didn't want to be a lawyer anymore and he joined Kern County Land Company.

Watkins-Johnson was a company who we did financing for at Hayden, Stone. And that brought me to meet another person who then introduced me to Tommy Davis. Tommy Davis, after the war, joined this company in Bakersfield, an oil company.

02-00:14:30
Hughes: Is that the Kern County—

02-00:14:31
Rock: Kern County Land Company! Right. And his mission was to invest some of Kern County Land Company's oil royalties, and so he invested in Watkins-Johnson. That's the connection.

02-00:14:53
Hughes: I see.

02-00:14:55
Rock: And then we did this public offering for Watkins-Johnson and I got to know Tommy Davis. And Tommy then said, "Well, let's do another deal," to Kern County Land Company. And they said, "No, no, no. We just entered this Watkins-Johnson deal—we want to see how that all works and we'll be ready to do another deal, maybe, in a couple of years. So Tommy and I got together and he said, "I really am frustrated." And I said, "Well, so am I, so let's form this partnership." So that's how that came about.

02-00:15:34
Hughes: Oh really.

02-00:15:35
Rock: Yeah, I couldn't get that story straight in my mind, but I do now.

02-00:15:38
Hughes: Well, you got it in the end. I know just from reading, a little bit about Tommy Davis, and it strikes me that you are very different personalities.

02-00:15:56
Rock: Very different.

02-00:15:58
Hughes: Was that a strain?

02-00:16:02
Rock: Yeah, it was a strain.

02-00:16:04
Hughes: How would you characterize how that—

02-00:16:07
Rock: Oh we got along all right.

02-00:16:08
Hughes: But I'm also thinking of businesswise what each of you might have contributed.

02-00:16:19
Rock: Well, he got along with people a lot better than I did. I tend to be a little short, and he liked to talk and massage people and listen to them a lot. He was different.

02-00:16:37
Hughes: Well, you have the reputation for being a very good listener.

02-00:16:41
Rock: Oh when I want to listen to somebody and draw them out, yeah.

02-00:16:45
Hughes: Yeah, they have to be saying something worthwhile, though. [chuckling]

02-00:16:49
Rock: Well, not necessarily. Maybe they're not.

02-00:16:53
Hughes: Oh and then you make a judgment.

02-00:16:54
Rock: [chuckling] Exactly! Exactly. No, when we were doing those investments—I don't have the patience to do it anymore, but when we were doing these deals, I'd spend a lot of time with entrepreneurs, trying to figure out whether they have what it takes to run a company. You never find out in the first hour or

two. You've got to talk to them over and over—we had the luxury, in those days, of spending a lot of time with them, over several weeks or months, trying to figure out whether they come back with the same story, or whether they contradict themselves, or how badly they really want to do this.

02-00:17:38

Hughes: Well, then what happens today, if you can't or are unwilling to spend that kind of time.

02-00:17:46

Rock: Well, today—the last few years I don't know what happened, but from the seventies through the nineties, take that period of time, you didn't have the luxury of spending time.

02-00:18:03

Hughes: Things were moving too fast.

02-00:18:04

Rock: Moving too fast.

02-00:18:05

Hughes: Yeah, did that bother you?

02-00:18:07

Rock: Oh yeah. So anyway—Tommy Davis and I ran this for—this partnership was a seven-year partnership and we ran it for seven years.

02-00:18:24

Hughes: Now is there anything magic to that number?

02-00:18:28

Rock: No.

02-00:18:29

Hughes: No.

02-00:18:30

Rock: Not when you had to do some number of years. [chuckling] Well, it was—you develop that because how long does it take to invest the money and how long does it take to see some kind of resolution. So seven years, at that time, seemed enough time. Today it would have to be much longer.

02-00:18:55

Hughes: Yeah, yeah. And it was enough time as it turned out, wasn't it?

02-00:18:57

Rock: Yes, it was.

02-00:18:58

Hughes: It was. Well, is it time to move on to—[brief interruption in recording] All right. So we have Davis & Rock founded, and of course, there is Draper, Gaither & Anderson in your vicinity as well.

02-00:19:25
Rock: Right.

02-00:19:28
Hughes: Are they and you now calling yourselves venture capital companies or partnerships?

02-00:19:35
Rock: I don't know where the term venture capital started, but I think I was the first to use it. I think I was. I don't know that for a fact, but I can't remember having heard the term before I used it, but it's such a generic type of phrase, that I'm sure somebody else must have used it. But—

02-00:20:03
Hughes: Do you think that's how you were thinking of yourselves when Davis & Rock were founded?

02-00:20:16
Rock: That's exactly right.

02-00:20:17
Hughes: And Draper, Gaither & Anderson, maybe, as well?

02-00:20:21
Rock: Probably. I have no idea. I didn't know them at all.

02-00:20:25
Hughes: You didn't.

02-00:20:25
Rock: No.

02-00:20:28
Hughes: But you must have been aware of their existence, weren't you?

02-00:20:29
Rock: Well, barely, barely. In fact, I embarrassed myself at one of these conferences with Bill Draper by saying we were the first venture capitalists, when actually we weren't. They were. But they were such a—they didn't come on my radar screen.

02-00:20:51
Hughes: Well, kind of for good reason, too, right? I read somewhere that I think they had something like \$6 million and had a hard time investing it. There was no—I don't have a good picture of why that was.

02-00:21:10
Rock: Well, I don't think the partners got along, maybe, or something—I don't know.

- 02-00:21:16
Hughes: Yeah, sometimes you wonder too about—I've seen it happen in biotech, for example, where you get founders with a prehistory—a very strong prehistory that maybe doesn't help in the end. And of course, all three of those men, Draper, Gaither & Anderson had had a very rich life before they founded the partnership.
- 02-00:21:49
Rock: Well, the first thing they did was build a building down at Stanford—and all they needed was an office this size.
- 02-00:21:56
Hughes: So that was quite an expenditure right there.
- 02-00:22:02
Rock: I would think so.
- 02-00:22:05
Hughes: All right. I think your first investment as Davis & Rock was in Scientific Data Systems?
- 02-00:22:22
Rock: Scientific Data Systems and Teledyne at the same time, practically the same time.
- 02-00:22:26
Hughes: Because Teledyne was, of course—you were bringing Teledyne with you.
- 02-00:22:30
Rock: Correct, yeah. I suppose our first check was actually to acquire Teledyne shares. Or that wasn't a check, it was an exchange of interests, but in any event—
- 02-00:22:42
Hughes: Yeah, your first transaction.
- 02-00:22:48
Rock: Yeah, right. But Scientific Data Systems came right thereafter.
- 02-00:22:50
Hughes: Right. And tell that story, please.
- 02-00:22:52
Rock: Well, a fellow who I knew in Los Angeles, who was an intermediary type, actually brought the offering circular of Scientific Data Systems to me to look at, to see whether we'd be interested. And sure enough, we were. Scientific Data Systems was founded by Max Palevsky, a very, very bright man who had been running—I've forgotten what the division was, but the computer division, I would guess, for Packard Bell Electronics. And it had been going fairly well until Packard Bell ran into trouble. They made television sets, Packard Bell television sets, and they got beat out by the Japanese in

television. And so they told Palevsky that they couldn't put any more money into his division.

And so he decided to leave and take some of the people with him and then form this company, which we subsequently named Scientific Data Systems. And it went on to be quite a successful company. As I said, Max was probably one of the brightest people I met, but he had interests in other things. He was interested in politics and being with the beautiful people in Hollywood, and he kind of was anxious to relieve himself of the responsibilities. At the same time, Xerox came along and offered us a price which was hard to refuse, so we became part of Xerox.

02-00:25:11

Hughes: I read, and again it may not be accurate, that that was your largest return?

02-00:25:22

Rock: Oh a huge return, yeah.

02-00:25:25

Hughes: And your largest probably?

02-00:25:26

Rock: Probably.

02-00:25:27

Hughes: Right, yeah. Unexpectedly? Or did you always think—because there's something to be said—

02-00:25:37

Rock: No, I hoped! [chuckling]

02-00:25:38

Hughes: Yeah, you hoped! But there's also a story behind investing in computers at that stage, right? Didn't you get a lot of flack from your friends for—talk about where computers were at that stage of the game.

02-00:25:59

Rock: No, I didn't get any flack on that.

02-00:26:01

Hughes: No, you didn't?

02-00:26:02

Rock: I did—a couple of other things I did.

02-00:26:04

Hughes: Maybe I'm mixing up stories.

02-00:26:10

Rock: IBM—there were about ten companies in the computer business, and they were used for business purposes. They were huge computers. They needed

air-conditioning and huge rooms. Max's idea was to make computers for scientific purposes, and our customers were people like JPL [Jet Propulsion Laboratory] and Lockheed and mostly companies doing aerospace kinds of work.

02-00:26:53

Hughes: I see, but anything but personal computers.

02-00:26:57

Rock: Oh no, well, that was way before [that].

02-00:26:58

Hughes: Way before that, yeah.

02-00:26:59

Rock: Yeah.

02-00:27:00

Hughes: Because we're 1961, aren't we?

02-00:27:02

Rock: Formed in 1961 and sold to Xerox in 1969.

02-00:27:08

Hughes: And again, I'm quoting Mr. Wilson, that you made \$60 million on a \$257,000 investment?

02-00:27:19

Rock: That's about right. Actually it was closer to \$80 million.

[chuckling] We made about thirty times our money on that investment. The company was sold for just short of a billion dollars—\$980 million as I recall, which was unheard of in those days. That was—it could have been the biggest payoff in the sale of a company that ever happened. It could have been. I'm not sure of that, but it could have been.

02-00:28:03

Hughes: You were doing all right.

02-00:28:06

Rock: I was doing just fine, and I had a good time.

02-00:28:10

Hughes: And each time you do something like this, is it radiating out into the business and investment world?

02-00:28:20

Rock: Oh sure. Everybody knows about this.

02-00:28:22

Hughes: So that—I would think that raising money is getting easier and easier? No?

02-00:28:30

Rock: Yes.

02-00:28:36

Hughes: But also—we haven't talked too much about the context of all this. And you know, the image that I have of the sixties—in fact, they're often called the roaring sixties—was the economy on a swing then? I mean, were things looking pretty good?

02-00:28:58

Rock: In this world?

02-00:29:01

Hughes: Yeah.

02-00:29:03

Rock: No. As a matter of fact, the stock market took a tumble in the sixties, in the early sixties.

02-00:29:09

Hughes: Did it?

02-00:29:10

Rock: Yeah. I think they reached a peak in about—well, as a matter of fact, when I left Hayden, Stone I was writing a letter, monthly or quarterly, I've forgotten which, on the various kinds of scientific companies—Hewlett-Packard and Varian and some other—those kinds of companies, and talking about their prospects and why people should buy their stock. When I left Hayden, Stone the last letter I wrote said, "These prices are ridiculous and I'm getting out." And so that's what happened.

02-00:29:59

Hughes: How much are you, when you're thinking about an investment, how much are you also factoring in what the stock market is doing and what the general economy is and—the external circumstances of any investment.

02-00:30:23

Rock: Well, up until this recent business, stock markets took swings, but normally the swings are no more than seven or eight years, so that we were in for a long enough period that it didn't really affect us.

02-00:30:48

Hughes: I see. All right. I don't feel—we haven't done a very good job with Scientific Data Systems, though. Is there more that we should be talking about there?

02-00:31:01

Rock: They were a great bunch of people and very, very dedicated.

02-00:31:04

Hughes: And was it feeling—was it ahead of its time in filling a market niche?

- 02-00:31:11
Rock: Absolutely, absolutely.
- 02-00:31:12
Hughes: And did you foresee that?
- 02-00:31:16
Rock: Well, I don't foresee things. I foresee that there's a possibility of something happening, but I'm not technical enough to really understand what the scientific possibilities are.
- 02-00:31:35
Hughes: But you can see—you can recognize a market need.
- 02-00:31:41
Rock: Oh I can recognize the market, but I don't know how big it is or—we had the luxury, in those days, of course, of knowing what everybody else was doing. We knew what IBM was doing, we knew what Sperry Rand was doing, we knew what—what's the name of the other—Univac was doing. Today you don't have that luxury.
- 02-00:32:03
Hughes: Because things are too big?
- 02-00:32:05
Rock: Too big and they're happening too fast.
- 02-00:32:11
Hughes: That would make a huge difference, I would think.
- 02-00:32:14
Rock: Oh I think so. I think so.
- 02-00:32:19
Hughes: The speed and the complexity of things.
- 02-00:32:22
Rock: Well, the complexity is—in those days, you know, you could fix things. Just like the difference in a car from a Model T to what—you could fix your own Model T, but you can't fix a car today. It's the same thing.
- 02-00:32:42
Hughes: You've brought up, several times, the fact that you don't have a science and technology background. You know—I can see that as being both an advantage and a disadvantage. I mean, you already brought out how if you don't have a science background, you've got to pay attention to the people, which I think is not giving you quite the credit that you should [receive]. But how do you function in this world?
- 02-00:33:18
Rock: You don't; I couldn't do this today.

02-00:33:21
Hughes: Just as simple as that.

02-00:33:23
Rock: I think so.

02-00:33:24
Hughes: Were there ever deals earlier on, though, in your career that you just didn't get involved with because you felt that you didn't know enough about the science and technology?

02-00:33:36
Rock: No. But I think there would be today. It might be a good time to think about ending this.

02-00:33:46
Hughes: I think so. So why don't we do that, and we'll continue the saga. I was just about to do that anyway, because I think the next step is Intel.

02-00:33:56
Rock: Okay.

02-00:33:57
Hughes: Does that sound right to you?

02-00:33:59
Rock: Sounds good.

02-00:34:00
Hughes: Okay. Is this all right with you, this rather free-form way of doing this?

02-00:34:08
Rock: Yeah, sure. That's the only way, I think.

02-00:34:11
Hughes: All right. Good.

Begin Audio File 3 1-27-2009.mp3

Interview 2: January 27, 2009

03-00:00:31
Hughes: It's January 27, and it's a little after 2:00 in the afternoon, and it's the second session with Mr. Rock.

03-00:00:39
Rock: Correct! [laughter]

03-00:00:45
Hughes: Last time I believe we stopped after a discussion of Teledyne and Scientific Data Systems.

03-00:00:55

Rock: All right.

03-00:00:56

Hughes: If you think that's the next step, let's say a little bit about Intel.

03-00:01:02

Rock: All right.

03-00:01:02

Hughes: Although I must caution you that I wasn't planning to go through company by company by company. Intel, I think is an important one, but then I'll leave it to you to choose where we go next.

03-00:01:19

Rock: Okay.

03-00:01:21

Hughes: But tell me the story of Intel as a beginner, please.

03-00:01:25

Rock: Well, Intel really began with Fairchild Semiconductor, and gradually over time, six of the eight original Fairchildren left to do various things, leaving Gordon [E.] Moore and Bob Noyce still at Fairchild. They became unhappy at Fairchild for several reasons. There was an opening to be CEO at Fairchild Camera and Instrument Corporation, and Bob and Gordon kind of felt that Bob should have that role, and they elected somebody else to be. And then there was the problem of stock options. Fairchild Camera and Instrument Company was located in Syosset, Long Island. There's something wrong with my voice. [interruption to get water to drink] Anyway, Fairchild Camera and Instrument Company was located in Syosset, Long Island, and like all eastern companies, they felt that it wasn't appropriate to give stock options to all the employees. So there was that problem.

03-00:03:43

Hughes: Now do you remember their reason?

03-00:03:54

Rock: Well, the reason was that it's a hierarchical situation and companies just didn't give them stock options—only the top executives got stock options in those days. And on the West Coast, companies started giving stock options, especially startups and young companies, primarily because they underpaid their people and thought they should make it up with stock options if the company were successful.

03-00:04:32

Hughes: Was it more than trying to tie people to the company?

03-00:04:37

Rock: Well, that's the same thing, sure.

- 03-00:04:44
Hughes: How far back did that go? Was it perhaps Varian, which was sort of a socialistic company—could they have been the first?
- 03-00:04:56
Rock: I don't know that Varian was the first. I really have no idea about that, but I think the first company that I know of that gave stock options to most of the employees was Scientific Data Systems. So that must have been in 1962 or '63.
- 03-00:05:16
Hughes: Did you have any part of that decision?
- 03-00:05:19
Rock: Oh yes.
- 03-00:05:19
Hughes: Yeah—and what was your thinking there?
- 03-00:05:23
Rock: Well, it was partially that we were underpaying our employees; we wanted to keep the employees, and also we felt that since the employees were making a sacrifice to come, they should share in any financial bonanzas that came their way—kind of a socialist idea, maybe.
- 03-00:05:52
Hughes: [laughing] It doesn't sound like Arthur Rock.
- 03-00:05:56
Rock: Oh you'd be surprised. [laughter]
- 03-00:05:58
Hughes: Really? So how did that system work? Did it indeed motivate and keep and finance—it worked?
- 03-00:06:11
Rock: Oh yes.
- 03-00:06:12
Hughes: And other companies began to copy it?
- 03-00:06:14
Rock: Other companies began to copy it, and it was certainly true in what became Silicon Valley. So anyway—Noyce and Moore were unhappy for two reasons, and finally they decided that they'd like to leave. Bob called me one day and said, "We're thinking of leaving to form a company," and I asked him how much money they thought they needed to get started, and they said, "\$2.5 million." And I said, "Okay. You got it." No—first I think we first discussed the terms—how much of the company they would be willing to give to investors for putting up \$2.5 million, and we agreed on 50 percent. Then I

said, “Okay. You’re covered,” and went about raising it, and it didn’t take me very long.

03-00:07:27

Hughes: Really. By then you had a reputation.

03-00:07:30

Rock: I had a reputation; they had a reputation.

03-00:07:32

Hughes: And were they pretty savvy businessmen at that stage?

03-00:07:36

Rock: At that stage, yes they were, yeah.

03-00:07:38

Hughes: Yeah, so they knew exactly how much of the company they should let go and that sort of thing.

03-00:07:45

Rock: Right, right.

03-00:07:45

Hughes: And is there a story about those early investors?

03-00:07:53

Rock: [chuckling] Well, the story is that it—of course there was no email or fax machines in those days, so it took me about a day and a half to reach all of the thirty or so people we had decided to ask, and they all decided that they would invest.

03-00:08:18

Hughes: And when you pick the pool of people that you are going to make the offer to, what is it based on?

03-00:08:30

Rock: Based on people I knew that—

03-00:08:34

Hughes: Yeah, and who have money.

03-00:08:35

Rock: [chuckling] Well, yes, and who have money.

03-00:08:41

Hughes: And so it’s not so much that—I mean, it’s not so much that here’s a new technology that they might be interested in? It’s more prosaic—these are people who have invested before, and I know they’re reputable, and I know they have money?

03-00:08:55
Rock: Well, they all asked what they were going to do, and I wrote a business plan myself, just two-and-a-half pages, double-spaced, which said nothing!

03-00:09:06
Hughes: [chuckling] And it said nothing because you didn't know yet?

03-00:09:10
Rock: Well, we weren't going to telegraph what we were going to do for a while.

03-00:09:17
Hughes: Yeah, but you did know more than you were putting down.

03-00:09:21
Rock: Well, Bob and Gordon certainly did.

03-00:09:23
Hughes: Yeah, but that in itself shows what kind of trust you had already generated amongst your following.

03-00:09:30
Rock: Oh yes, yeah. I was never as sure that a company would succeed as I was that Intel would.

03-00:09:43
Hughes: Really!

03-00:09:44
Rock: Yeah, I was 100 percent sure that that company would succeed. I never had been before or since.

03-00:09:52
Hughes: And what exactly made you so sure?

03-00:09:58
Rock: Their reputations.

03-00:09:58
Hughes: So again it was people.

03-00:10:00
Rock: Definitely.

03-00:10:04
Hughes: This seems to be a theme.

03-00:10:05
Rock: I hope so.

03-00:10:10
Hughes: [chuckling] So you were less interested in what they were going to do? Or maybe it was more that you *trusted* what they were going to do?

03-00:10:17

Rock:

I think the latter. Intel's idea was to make semiconductor memories. Up to that point memories were made from stringing magnetic cores and Intel was about to change that. It turns out that if today computers relied on magnetic cores it would take more than the world's population to string them.

03-00:10:18

Hughes:

Yeah, I see. All right. I'm asking you the obvious, I know, but I have a strong suspicion that this is very different than the way it is done nowadays.

03-00:10:30

Rock:

Well, what's happened nowadays is that the lawyers got a hold of these things because—well, let's step back: the ERISA laws changed, so that large pension funds and endowments could invest in startups. And of course, they had bundles of lawyers, and lawyers started getting concerned about [how] some of the provisions weren't written exactly, so the business plans went from two-and-a-half pages to hundred of pages. And then venture capitalists became more technically oriented and had to look into things in detail, so that all added up to a lot more technology being disclosed and looked at and scrubbed and look[ed at] through a microscope, yeah.

03-00:11:57

Hughes:

But you told me in the previous interview that because this wasn't your background—you have an MBA, you don't have a scientific, technical background—what did this mean for you in the way you did business, the way you wrote a business plan?

03-00:12:19

Rock:

Well, normally I don't write business plans. Normally the companies write a business plan. But in this case, I just felt that the investors were already there and all we needed to do was give them a little sheet of paper they could put in their files.

03-00:12:41

Hughes:

I see, I see. But in terms of your practice—and of course, we're skipping ahead in time because I believe that the critical ERISA law was 1978, when things loosened up—

03-00:12:53

Rock:

I thought it was '72, but it may have been '78. (It was passed in 1974.)

03-00:12:57

Hughes:

Well, there were a whole slew of them, and some of them were actually—and I can't remember about the '72—maybe I never knew, but certainly the ERISA law of 1974 was actually timing regulations, and my memory is, which of course as you've learned already can be very faulty, was that 1978 was when the institutional investors really came into the picture.

03-00:13:25

Rock:

That may be. That may be.

03-00:13:29

Hughes: Yeah, but that's kind of a watershed, isn't it, for venture capital?

03-00:13:33

Rock: Oh well, that just allowed all these people who—not only was the law changed, but institutional investors didn't want to invest in technology companies and startups because they thought they were too risky. And then when they saw the returns that Davis & Rock made, they were *party* to having the law changed.

03-00:14:09

Hughes: I see! That's interesting in itself. All right—well, I keep pulling you away from Intel itself, so after—I know we could spend ten years on Intel, but we're not going to.

03-00:14:25

Rock: Okay. [chuckling]

03-00:14:26

Hughes: But what, in your opinion, are the highlights of what became of that company, which, of course, is still going strong.

03-00:14:35

Rock: Well, the highlights were the management. Management consisted of myself as chairman, Bob Noyce as president and chief executive officer, Gordon Moore as vice president. And it eventually evolved—I was chairman for seven years—into a moving up of Bob Noyce to be chairman and Gordon Moore president, and then Gordon Moore chairman and chief executive officer, and Andy [Andrew S.] Grove becoming president and chief operating officer. And then Andy Grove became chief executive officer. That was a succession of managements that is incredible. Each one—if the order were reversed, Intel would not be, in my opinion, be what it is today, because Bob Noyce, although he was an inventor and invented many of the strategic parts that Intel made, he was also a promoter. He went around speaking, and before Congress, and did these various things to get the company on the map. He was a salesman, so that was the first requirement.

03-00:16:25

Hughes: Right.

03-00:16:28

Rock: Then he went on to other things, and Gordon became chief executive officer eventually, and at that time, he was the technical guru at the company. He was more the strategist; he was the one who figured out what products the company should be making, where we should be looking, and that sort of thing. He did a great job in that, and then when the company got to a stage where operations were important, Andy Grove took over. My opinion is that if that had been reversed or changed in any form, it would not have worked out as well.

03-00:17:18
Hughes: I see. How much of it was serendipity?

03-00:17:22
Rock: Serendipity—meaning—

03-00:17:23
Hughes: Well, was this—each successive stage, represented in these three men, was it thought out, calculated, that the company needed this sort of direction?

03-00:17:36
Rock: Oh no, no. It was just the natural order of things.

03-00:17:42
Hughes: So—that’s serendipity, then.

03-00:17:44
Rock: Well, okay. [laughter] I’m not too familiar with that word.

03-00:17:50
Hughes: Well, you know, that it just happens, and it happens fortuitously,

03-00:17:57
Rock: Well, it didn’t just happen—people were groomed for these things.

03-00:18:00
Hughes: But this, again, is back to the theme of personality, isn’t it?

03-00:18:08
Rock: Oh of course!

03-00:18:10
Hughes: Yeah, so that you knew if Andy Grove was coming in that there was going to be a slightly different emphasis.

03-00:18:16
Rock: Well, he was chief operating officer before he was chief executive officer.

03-00:18:20
Hughes: Yeah, exactly, yeah.

03-00:18:23
Rock: So we had time to look at him and see whether he had the capabilities of being chief executive officer, and luckily he did.

03-00:18:31
Hughes: What about your—was this happening in the seven-year period when you were director? When you were chairman?

03-00:18:45
Rock: Well, I can’t quite remember the timing, but I think Gordon became chief executive officer while I was still there—while I was still chairman.

03-00:18:57
Hughes: Do you have anything to say about your relationship with these three men?

03-00:19:02
Rock: Oh it was great! I enjoyed it.

03-00:19:04
Hughes: Was it all the way across?

03-00:19:04
Rock: Well, we had a few arguments now and then. [chuckling] I admire all of them. They're my heroes!

03-00:19:12
Hughes: Yeah—of everyone?

03-00:19:14
Rock: Of all three.

03-00:19:18
Hughes: No, of all the other potential heroes in your life.

03-00:19:23
Rock: Oh no, no, they're among a small number.

03-00:19:31
Hughes: Well, I can see why from the little I know at a distance. I read that one of the important decisions, of many, that Intel made—and I apologize in advance for kind of dipping in and maybe not picking out the most important decisions, but one of them, as I understand it, was to change corporate focus from memory chips to microprocessors?

03-00:20:08
Rock: It certainly was. It was one of the great corporate decisions ever made anywhere.

03-00:20:14
Hughes: Is that so.

03-00:20:14
Rock: In my opinion.

03-00:20:16
Hughes: What was your role in that?

03-00:20:18
Rock: None! [laughter]

03-00:20:20
Hughes: Just raising your hand and saying, "Go to it."

03-00:20:25
Rock: Yeah.

03-00:20:25
Hughes: Yeah, because there again, they were the ones with the technical expertise.

03-00:20:31
Rock: Correct.

03-00:20:32
Hughes: But you were sitting there with your ears flapping, and realizing that this had to be done.

03-00:20:38
Rock: Well, something had to be done. The Japanese had taken over the memory business by subsidizing their companies, and they were selling below cost.

03-00:20:57
Hughes: Are we in the 1980s now?

03-00:21:01
Rock: Somewhere around there. Early eighties.

03-00:21:05
Hughes: The early eighties, right. We talked about stock [options]—I read, and please correct me, that Intel was the first to give stock options to *everyone*.

03-00:21:22
Rock: I think that's true. In fact, I know it's true. To everyone who had been there a year or more, as I recall.

03-00:21:33
Hughes: Right. What did that mean?

03-00:21:36
Rock: What did that mean? [chuckling] It was good socialism! It meant if we were going to make a lot of money, they should have a part of it.

03-00:21:55
Hughes: They should have a part of it.

03-00:21:55
Rock: Yeah, and we were also underpaying our people a little bit.

03-00:21:59
Hughes: You still were underpaying them.

03-00:22:00
Rock: By not as great an amount, because we could afford it, but compared to what they could make somewhere else, maybe we were underpaying them.

03-00:22:10
Hughes: Has it been your observation that options do really motivate and keep people—

03-00:22:20

Rock:

That was true. I don't believe it is any longer. What's happened—and we didn't foresee at Intel, was that people would cash them in immediately. We thought people would hold them for their old age or whatever, but people wanted to cash them in and get new options all the time. So, at one point—in fact I don't think Intel does this any more, but we were sending the stock directly to brokers when they vested, because people just wanted to sell them and buy their houses or send their kids to college or give them braces, or whatever. So that became kind of a self-defeating thing, and I don't think options serve anywhere near the purpose that it did when we first started to give them out.

03-00:23:29

Hughes:

Do you look back on Intel and your connection with it as one of the great achievements of your career?

03-00:23:39

Rock:

Oh yes.

03-00:23:41

Hughes:

And what else might be there? Because maybe we should move there, unless you've got more to say about Intel.

03-00:23:50

Rock:

No, but—Teledyne, Scientific Data Systems, those are the—

03-00:23:55

Hughes:

And could we talk about Apple?

03-00:23:58

Rock:

Apple, sure. I was not the original venture capitalist in Apple. I didn't make my investment until a year or so after the company was founded.

03-00:24:16

Hughes:

Was that Don [Donald T.] Valentine?

03-00:24:20

Rock:

Don Valentine bought stock in the company and sold it. He didn't like the management at all, and I don't know how long he owned stock—or Sequoia did. But Mike Markkula, who was a marketing VP at Intel left after a while. He had made enough money in his Intel options, and he and I were friendly. He called me one day and said, "Hey, Arthur, you'd better take a look at this Apple." I said, "Okay." And he—I'm not sure what order of things transpired, but he had me go down to a computer show in San Jose, so I went down there and they were all—nobody had a computer to show, but parts of computers, so people could make their own, assemble them. And there was nobody at the show at any booth except the Apple booth. Everybody was lined up trying to get into the Apple booth, and I couldn't even get to it. And so I said to myself, Jesus, it's got to be something here—and then it was either before or after—I

mean, this happened a long time ago—I met with Steve Jobs and Steve Wozniak, and they were very unappealing people.

03-00:26:26

Hughes: Meaning—

03-00:26:28

Rock: Well, I'll tell you exactly what I mean. Jobs came into the office, as he does now, dressed in Levi's, but at that time that wasn't quite the thing to do. And I believe he had a goatee and a moustache and long hair—and he had just come back from six months in India with a guru, learning about life. I'm not sure, but it may have been a while since he had a bath.

03-00:27:13

Hughes: [chuckling] Just your type!

03-00:27:15

Rock: And he was very, very thin—and to look at [him]—he really belonged somewhere else. Steve Wozniak, on the other hand, had a full beard and he's just not the kind of a person you'd give a lot of money to. But I guess that came first and then I went down to the computer show. I'm not sure which. But because Mike had already invested \$300,000 of his own money—that is, he guaranteed a bank note for a third of the company. At that point Mike Markkula, Steve Jobs, and Steve Wozniak each owned a third of the company. I didn't want to bet against Mike Markkula, or what I saw there, so that's when I became an investor.

03-00:28:27

Hughes: It was really as simple as that?

03-00:28:35

Rock: [chuckling] That's it!

03-00:28:38

Hughes: And then what happened?

03-00:28:39

Rock: Great things!

03-00:28:45

Hughes: Well, what is there about Apple that—I think it's still true, but you correct me again there, that not only is it an extremely successful company, and maybe this is a stupid question because of that, but hasn't it served as a model for many, many other companies, particularly in Silicon Valley? And why, if that indeed is true, what is there about it, aside from its success?

03-00:29:29

Rock: First let's step back a ways. Apple was successful, highly successful, and it was clear to everyone that they needed a CEO. We went out and hired John Sculley to be CEO, and he ran the company as CEO for ten years, eight of

which were very successful. The last two were not so successful. Steve Jobs was a problem; he was very headstrong, very much the enfant terrible, or however you pronounce that. He upset people at the company and wanted to do his own thing, and wouldn't tell people what he was doing—and yet he was one of the big stockholders. So finally, we had to take his position away from him, and then he left and formed his own company, which didn't sit too well with what he wanted to do versus what Apple was doing. And then we had to ask John Sculley to leave; he was having home life problems and moved to Connecticut and then was commuting, and you can't run a fast-moving company like Apple. And then the company went downhill fast, and at one point, it was near bankruptcy.

03-00:31:46
Hughes:

Were you on the board?

03-00:31:48
Rock:

No, I was not on the board. I had—remind me to tell you that story in a minute. Somehow Steve, with his great charm, was able to sell the little company that *he* had to Apple, and then kicked the guy out who was then chairman or CEO of Apple and became CEO of Apple again. And that's a brand new story.

03-00:32:33
Hughes:

Yeah, I'd forgotten that interim—but you're absolutely right, it wasn't just a string of successes.

03-00:32:39
Rock:

Oh no, oh no. And Steve was even so charismatic that he got one of its competitors, Microsoft, to invest in Apple because otherwise Apple would have gone bankrupt. Steve is a national treasure; there's no doubt about it in my mind, but he doesn't invent things. All he does is take other people's ideas and promote them. He has design ideas; he has ideas where things should go, but he doesn't *do* it.

03-00:33:32
Hughes:

But could you credit him with perfecting them? I understand he's a huge perfectionist.

03-00:33:40
Rock:

Oh yes. But somebody else has got to have—has the basic idea.

03-00:33:46
Hughes:

Come up with it.

03-00:33:46
Rock:

Steve Wozniak had it in the beginning, and there are other people who have had great ideas that Steve Jobs has been able to promote.

03-00:34:01
Hughes:

What happened to Wozniak?

03-00:34:08

Rock: I think Wozniak now teaches school.

03-00:34:13

Hughes: Really?

03-00:34:13

Rock: I think so; I think that's right.

03-00:34:18

Hughes: How long did he stay with the company? I don't need exact years, but—

03-00:34:25

Rock: Not long.

03-00:34:25

Hughes: A short time, a short time. All right. I gather that there's a story about you and the board and leaving it.

03-00:34:36

Rock: Oh—well, Apple decided that they should have a semiconductor design facility, which I thought was a good idea, because we were using so many semiconductors, seeing whether we couldn't design better ones. And then I think it's probably announced at a board meeting, but I didn't pay much attention to it, that they had entered into a joint venture with Motorola and Texas Instruments [means IBM; corrects himself below] to design what they called a PowerPC. And then, lo and behold, in the newspaper, all the major newspapers, they took a two-page ad in every newspaper you could think of, announcing that they were ready to ship the PowerPC, which I did not know they were going to manufacture—but that's not important—but that they were going to kill Intel. Literally—that's what it said. At that point, I resigned.

03-00:36:19

Hughes: I can imagine. What was the effect of that ad?

03-00:36:25

Rock: Oh a lot of talk, not much happened. No, I beg your pardon—I think Apple used the PowerPC for quite a while.

03-00:36:40

Hughes: So the ad served them well, would you say?

03-00:36:44

Rock: Oh I don't know. I don't know whether it served—

03-00:36:47

Hughes: It seems a sort of a dicey decision to make. [chuckling] And it obviously didn't sit very well with you.

- 03-00:36:54
Rock: [laughing] I don't think they cared much about whether it did or not. Maybe it wasn't Texas Instruments—it was IBM. It was IBM, Apple, and Motorola.
- 03-00:37:14
Hughes: Is it true—as I read, that at least in the beginning Jobs and Wozniak were hell bent to take the company public as soon as they could and make a killing? Do you remember that being true?
- 03-00:37:36
Rock: I don't think that's true.
- 03-00:37:37
Hughes: You don't think that's true.
- 03-00:37:39
Rock: I think the company went public when they needed money. The two Steves did not sell any stock in the public offering.
- 03-00:37:42
Hughes: Well, Apple went public in December 1980, and that was just—
- 03-00:37:50
Rock: Somewhere up there there's a copy of the offering prospectus.
- 03-00:38:00
Hughes: All right. Genentech had gone public in October. Is there any connection between those two events?
- 03-00:38:11
Rock: No.
- 03-00:38:13
Hughes: If you remember—it was simply that it was time for Apple—
- 03-00:38:17
Rock: It was time, yeah, it was time.
- 03-00:38:19
Hughes: It was time.
- 03-00:38:19
Rock: Yeah, they needed the money.
- 03-00:38:21
Hughes: Because the other thing that I've read is that the—not necessarily just those two IPOs, but because they were both spectacular IPOs, that there was now an opening for a very propitious time for initial public offerings in the early eighties.
- 03-00:38:44
Rock: That's right.

03-00:38:45
Hughes: Yeah. And it's probably very naïve to think that you can hang that simply on Genentech and Apple's very successful IPOs.

03-00:38:56
Rock: Well, that was part of the reason that the IPO market became hot.

03-00:39:02
Hughes: What else was going on then?

03-00:39:05
Rock: I have no idea. [Hughes chuckles] My dementia won't—

03-00:39:15
Hughes: You know I do know a little bit more about Genentech, and I know that at that point it had no products; it was only marginally profitable. Did you notice any of that and think anything about it? Or was it just another company that you'd never paid much attention to going public?

03-00:39:42
Rock: The latter.

03-00:39:43
Hughes: The latter. Is that somewhat—I'm not aware of you having invested in biotech.

03-00:39:50
Rock: Never.

03-00:39:51
Hughes: Never—and is there a reason?

03-00:39:53
Rock: Yeah, I don't understand it.

03-00:39:56
Hughes: Oh. [chuckling] But you're saying that in a sense you don't understand—

03-00:40:00
Rock: [tentatively] Yeah, but—by that time, you really had to begin to understand the technologies.

03-00:40:13
Hughes: Something, yeah. So you religiously steer away from—

03-00:40:18
Rock: No I didn't *religiously* stay away from it. I've got to tell you, I didn't have many opportunities, either.

03-00:40:24
Hughes: Is that so!

- 03-00:40:28
Rock: Well, Genentech was, by itself, was the first biotech company formed, and certainly was alone for quite a while.
- 03-00:40:38
Hughes: Well, certainly alone in being a public company. There were others beginning to form by then. And Cetus went public right thereafter.
- 03-00:40:54
Rock: Is that right? I don't remember that.
- 03-00:40:56
Hughes: Yeah, it went public in 1981, and I guess you could call it a biotech company. It's a qualified biotech company—it was certainly a biology-based company—
- 03-00:41:06
Rock: Biology, yeah.
- 03-00:41:08
Hughes: —which probably is the same thing in your mind, which is perfectly legitimate. I was just wondering if there was a momentum, but it doesn't sound as though—
- 03-00:41:20
Rock: Well, there was a momentum—the stock market always has fads.
- 03-00:41:32
Hughes: How much does that enter into your thinking?
- 03-00:41:36
Rock: Well, you've got a fad now where nobody can go public!
- 03-00:41:40
Hughes: [laughing] I read that there was one IPO in 2008. Is that indeed true?
- 03-00:41:48
Rock: That's probably right.
- 03-00:41:57
Hughes: The other thing that I read and that surprised me a little about Apple was that—and I suppose this was long after you had left the board—but in the late 1980s, Apple actually operated its own venture capital fund. Do you remember anything about that?
- 03-00:42:21
Rock: Sure. It actually began while I was still on the board.
- 03-00:42:22
Hughes: What did you think about that?

03-00:42:24
Rock: I thought it was a mistake.

03-00:42:25
Hughes: And why?

03-00:42:29
Rock: [pause] Because—people—Intel has a huge venture capital firm. They have the biggest venture capital firm in the business.

03-00:42:42
Hughes: Does it. I didn't know that.

03-00:42:44
Rock: It's called Intel Capital, and I think that's a mistake, because unless you have skin in the game, I don't think you can do an objective job.

03-00:42:54
Hughes: Skin in the game?

03-00:42:57
Rock: Yeah—you haven't heard that expression?

03-00:43:00
Hughes: No, I haven't.

03-00:43:00
Rock: I'll be darned!

03-00:43:03
Hughes: I'm not a venture capitalist.

03-00:43:05
Rock: [chuckling] Well, you don't have to—that expression goes way beyond venture capital. But skin in the game—meaning that you have something to lose if it doesn't work out.

03-00:43:17
Hughes: Oh I see. All right. All right. But how does that apply?

03-00:43:25
Rock: Well, if you have some of your own money at stake, that's skin in the game.

03-00:43:30
Hughes: Yeah?

03-00:43:31
Rock: Well, if you're doing it for Apple, you don't have your own—

03-00:43:37
Hughes: Okay, I see—from that [perspective]—I'm thinking of it from the company's standpoint. You're talking about the individual's standpoint.

03-00:43:44
Rock: Right.

03-00:43:45
Hughes: Okay, now I get it.

03-00:43:47
Rock: So I don't think decisions are necessarily made on the right basis.

03-00:43:52
Hughes: I see. And yet—could that not have also applied to all the venture capital branches that were, and still are in some cases, attached to banks?

03-00:44:05
Rock: Yes, absolutely. And most of them have not been successful. In fact, I don't know any that have been successful.

03-00:44:14
Hughes: And it is that—you need that personal touch, that personal—

03-00:44:19
Rock: Involvement.

03-00:44:19
Hughes: Yeah, involvement. And you carry that on to these business-related venture capitals or bank-related venture capital?

03-00:44:29
Rock: Yeah, most of them have folded up. Intel is really the only one that's going now, I think. Although I've read that a couple of companies including Google have very recently entered the fray.

03-00:44:34
Hughes: Do they pretend to nurture companies as well?

03-00:44:40
Rock: Well, some of them make the excuse for doing it, which Intel does, and does successfully, in that they try to grow companies that can be of help to Intel.

03-00:44:54
Hughes: I see. So there is a rationale to it all.

03-00:45:00
Rock: Yes. [interruption in recording; Rock briefly leaves room]

03-00:45:05
Hughes: [abrupt beginning] I want to—but let's go there right now.

03-00:45:08
Rock: All right. Are you set? If you want to learn about one of my biggest losers it was Disonics [Inc.]. They were the first company in the ultrasound business

and the first company to make what's now MRIs, Magnetic Resonance Imaging machines.

03-00:45:37

Hughes: What decade was this?

03-00:45:39

Rock: Pardon?

03-00:45:40

Hughes: [louder] What decade was this?

03-00:45:46

Rock: Probably early eighties.

03-00:45:49

Hughes: Oh okay.

03-00:45:53

Rock: That company did well. It had a public offering. People made a lot of money in the public offering, and then it went close to bankruptcy and was sold for a very little amount of money. Two problems: first problem was that the MRI machines, which were then called NMR, for Nuclear Magnetic Resonance—that name didn't go over very well because people thought they were going to be nuked.

03-00:46:54

Hughes: Yes, right.

03-00:46:54

Rock: So we changed to MRI, Magnetic Resonance Imaging. The machines sold for a lot of money—\$1.5 million or something like that. And we were profitable making those machines until General Electric and Siemens decided that they had to be in the business. It wasn't a question of they wanted to; they had to be in the business.

03-00:47:33

Hughes: For competitive reasons?

03-00:47:38

Rock: Well, they were in the medical instrument business.

03-00:47:38

Hughes: I see, and this was a going thing.

03-00:47:41

Rock: This was the hot item.

03-00:47:42

Hughes: Yeah, I see.

03-00:47:45

Rock:

So they went around to hospitals—most of our customers were hospitals—in fact probably all of them were at that time and said, “Don’t pay for it now. Use it for a year, see how you like it, and if you like it you can buy it—otherwise, turn it back.” Well, we could not afford to do that, and so we had a lot of trouble selling our machines after a while. The competitive aspect just got too tough for us.

The other problem that arose was that the CEO felt that he had to satisfy Wall Street and make his numbers, and it turned out that he couldn’t make his numbers and the company got into trouble with the financial community and the SEC and so on, mostly having to do with revenue recognition. But that would not have happened, I don’t think, if it wasn’t for the problem with GE and Siemens. So that was a big blow to me.

03-00:49:09

Hughes:

Was it? Was that your first big failure?

03-00:49:12

Rock:

Oh a big failure, yes.

03-00:49:18

Hughes:

You’d had little ones.

03-00:49:18

Rock:

I had a lot of minor failures.

03-00:49:20

Hughes:

Well, when you say he needed to meet his numbers—doesn’t everybody have to do that?

03-00:49:29

Rock:

But you don’t have to put out numbers.

03-00:49:33

Hughes:

I see, and he had actually put out numbers.

03-00:49:34

Rock:

Yes.

03-00:49:37

Hughes:

I see. Were you able to advise him otherwise? Or was that just something he did without consulting—

03-00:49:49

Rock:

Well, I should have known. I consider it partially my fault. I should have figured it all out, but I didn’t.

03-00:49:55

Hughes:

You mean by just figuring out what sort of a person he was?

03-00:49:59
Rock: Well, both that way and by just examining the numbers.

03-00:50:11
Hughes: I see. I see. Well, I would think that you couldn't expect yourself to be absolutely on top of everything there.

03-00:50:19
Rock: Well, I was chairman of the audit committee. I should have—so in any event, that was my big failure.

03-00:50:30
Hughes: That was your big failure and you take some responsibility for it.

03-00:50:35
Rock: Of course.

03-00:50:37
Hughes: And maybe this actually applies, but this is getting into the more general questions, which you are very welcome to apply to specific cases, and this is a very Arthur Rock—but you have been quoted to say, and my source was *Risk and Reward*. Do you know that book? [*Venture Capital and the Making of America's Great Industries*,] by [Thomas] Doerflinger and [Jack] Rivkin [and Bill Moyers.] Anyway—the quote is Arthur Rock saying, “Nearly every mistake I’ve made has been because I picked the wrong people, not the wrong idea.”

03-00:51:23
Rock: That’s correct.

03-00:51:27
Hughes: I know that’s a theme that’s been carried through all our talks, but would you also say that that was maybe true in the case of the CEO of the MRI company?

03-00:51:40
Rock: Absolutely.

03-00:51:42
Hughes: Yeah. But how—

03-00:51:44
Rock: There were warnings.

03-00:51:46
Hughes: Were there? I would think it would be very dicey, though, to know when is the time to take action.

03-00:51:57
Rock: You always take action six months too late. [Hughes laughs]

03-00:52:03
Hughes: Yeah, but isn't that very human?

03-00:52:07
Rock: [chuckling] Oh I'm not saying I'm inhuman! [laughter]

03-00:52:13
Hughes: No, no, no—but I would think—

03-00:52:15
Rock: Yes, of course.

03-00:52:16
Hughes: You're not going to take action on the first thing that goes wrong.

03-00:52:20
Rock: That's right, that's absolutely—

03-00:52:20
Hughes: So there has to be a build-up.

03-00:52:22
Rock: That's right.

03-00:52:22
Hughes: Yeah, and I guess it's knowing what point in that build-up when to take action.

03-00:52:29
Rock: That's right.

03-00:52:31
Hughes: And what is that about? Is that again reading people? Or experience? Or both?

03-00:52:37
Rock: Both.

03-00:52:43
Hughes: All right. You've probably already said this, but maybe you could say it in a nutshell—how you would characterize in a few words, your investment strategy and style.

03-00:53:03
Rock: [pause] Oh I think we covered that ad nauseum. It's investing in people.

03-00:53:13
Hughes: [chuckling] Investing in people, and that's really the way you want it to go down.

03-00:53:19
Rock: That's right.

- 03-00:53:19
Hughes: Yeah, that's enough.
- 03-00:53:21
Rock: That's my strategy and that's my style.
- 03-00:53:24
Hughes: That's your style, all right. I just wanted to make clear that there wasn't more to it. [reviewing list of questions] A lot of these, you're absolutely right, we have covered. What about geographic proximity? Is that a necessity?
- 03-00:53:43
Rock: It is for me. I limited almost all the investments to California, places I could get to very quickly.
- 03-00:54:06
Hughes: As part of your wanting to be part of the management of the company.
- 03-00:54:09
Rock: Correct. And very hands-on.
- 03-00:54:13
Hughes: Is that changing nowadays? Not you, but others?
- 03-00:54:18
Rock: Oh now it's the world! People are investing in India and China and Kazakhstan.
- 03-00:54:27
Hughes: And not necessarily spending a lot of time in those places.
- 03-00:54:29
Rock: No, it's become a much more institutionalized business.
- 03-00:54:33
Hughes: Well, talk to me a little bit more about the changes that you've seen in your career.
- 03-00:54:41
Rock: Well, these large venture capital firms that are around now—they have billions of dollars, and they have a few partners—maybe ten, twenty, and they make investments on orders of hundreds of millions of dollars. You divide the hundreds of millions of dollars, or \$20 million, or whatever, into the amount of capital they have, and you come out with—that each partner's got to look at ten or twenty investments and where does he have time? It's just a mathematical—I can't tell you what the figures are, but it's—
- 03-00:55:48
Hughes: No, but I can see it, you know, you just—
- 03-00:55:52
Rock: So they don't have the time, and they're also looking for new investments.

03-00:55:59

Hughes: Well, you'd said before that the pace and diversity, I guess you would call it—the number of investments that people nowadays have is just something that you wouldn't want to handle. [pause to change tape]

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04-00:00:00

Hughes: It's still January 27, and this is the fourth and last tape of the second session with Mr. Rock. I'm going to jump to the cover of *Time* magazine [January 23] in 1984, in which the artist clothed you in a suit of money. I wondered what you thought about that, and did you know in advance that that is indeed what *Time* magazine was going to do.

04-00:00:35

Rock: Well, I had hoped they wouldn't do the story at all.

04-00:00:39

Hughes: Oh really? Why was that?

04-00:00:40

Rock: I did not cooperate with them one bit. I did not give them an interview.

04-00:00:44

Hughes: Really?!

04-00:00:46

Rock: No.

04-00:00:47

Hughes: I didn't know that.

04-00:00:48

Rock: I didn't want that publicity.

04-00:00:48

Hughes: And why?

04-00:00:51

Rock: I just didn't want it. What did I need it for?

04-00:00:55

Hughes: Well, one could say to spread the word that this man seems to know how to handle money.

04-00:01:06

Rock: I didn't need to have that word spread! [chuckling]

04-00:01:08

Hughes: It was spread enough. [chuckling] But you know—and you don't have to talk about this, but I wonder if you have a philosophy about how you do handle your money. I'm thinking this may be going further than you want to go, but

we've talked a lot about how you handle investments in a business sense. I just wondered if you and the many colleagues like you who have been in this industry for a time and have, to put it frankly, made a lot of money—what is your philosophy about handling your own personal money in terms of society or however you want to look at it in that sense. I'm not phrasing this very well, but do you understand what I'm trying to—

04-00:02:18

Rock: I understand what you're saying and—you know various of my breed do different things.

04-00:02:31

Hughes: Yes, I know.

04-00:02:35

Rock: I personally am quite involved with children's scholarships, K-8 education. That's my passion these days.

04-00:02:49

Hughes: Having three children, I cannot agree with you more that that's very important. Can you say something about [of] all of the things that you could have chosen why it is that?

04-00:03:07

Rock: Sure. Because only 40 percent of inner-city kids graduate from high school, and unless we can improve that, these kids are going to have nothing to do in this society, which is now electronic. You can't get a job in a car factory pushing cars around. It's all done. So they're going to get jobs either flipping hamburgers or peddling drugs, and we're well on our way to losing our place in society, economically—

04-00:03:54

Hughes: We as a country.

04-00:03:56

Rock: As a country. You know Tom [Thomas L.] Friedman wrote a book called, "*The World is Flat: [A Brief History of the Twenty-first Century]*", well, it isn't. It's tipped toward China, Japan, India, etc. And the reason that these kids don't do well, in my opinion, is that they're not taught well, and they're not taught well because of the teachers union. I think the teachers union is a fascist organization, and so I've gotten involved—I'm president of something called the BASIC Fund. The BASIC Fund—BASIC stands for Bay Area Scholarships for Inner-City Kids. And we give scholarships to 5400 kids in the Bay Area to attend the private school of their choice. And then I'm on the board of Teach for America and I'm involved with KIPP.

04-00:04:59

Hughes: What is KIPP?

04-00:05:01
Rock: Knowledge is Power Program—charter schools and all of these organizations have improved the lives of kids tremendously. In KIPP and in the Basic Fund, where we send kids to school—those kids have gone from 40 percent who graduate to 80 percent. So it can be done.

04-00:05:45
Hughes: Yes.

04-00:05:46
Rock: And Teach for America gets college graduates, right out of college, to teach for two years, and they've done extremely well.

04-00:06:01
Hughes: That's one of the programs that Obama is anxious to spread.

04-00:06:08
Rock: Exactly, yeah. We had 27,000 college graduates apply to be Teach for America teachers this year.

04-00:06:21
Hughes: Is that so!

04-00:06:22
Rock: And we could only accept about 5,000.

04-00:06:26
Hughes: My heavens. Is there any place else you can put them? [laughter] And the BASIC Fund—where does the funding come from?

04-00:06:39
Rock: Me.

04-00:06:40
Hughes: Oh it's all you?

04-00:06:41
Rock: No, a third. A third is me. A third is from the Walton Foundation and a third is from the other members of the board.

04-00:06:54
Hughes: Well, congratulations. It sounds like a—

04-00:06:57
Rock: So that's what I'm doing.

04-00:06:57
Hughes: Is that mainly what you're doing now?

04-00:07:00
Rock: Well, I've done some other things—set up a program at the California Academy of Sciences for every kid in San Francisco in the fourth grade to go

to the academy, with their teacher in a bus, and give them lunch and spend the morning at the academy—every kid in San Francisco.

04-00:07:28

Hughes: Wow. And that's happening.

04-00:07:29

Rock: It's happening, now, yeah.

04-00:07:33

Hughes: Good!

04-00:07:33

Rock: Half of the kids in San Francisco will have gone there—but it's only been open since November, so by next year 100 percent of the kids.

04-00:07:45

Hughes: Marvelous!

04-00:07:50

Rock: They're called Rock Scholars or Rock Kids, or something. I've forgotten.

04-00:07:57

Hughes: Very good. Enough on philanthropy?

04-00:08:02

Rock: That'll be fine.

04-00:08:02

Hughes: I know we're racing through. Have you had any close connection with either of the venture capital associations? National Association of Venture Capital [means National Venture Capital Association] and the West Coast [means Western] Association of Venture Capital [ists]?

04-00:08:22

Rock: None.

04-00:08:26

Hughes: No membership?

04-00:08:26

Rock: No.

04-00:08:29

Hughes: No, nothing. Why is that?

04-00:08:30

Rock: I think they're kind of self-serving.

04-00:08:34

Hughes: So you really are a free spirit.

04-00:08:37

Rock: [chuckling] I suppose.

04-00:08:39

Hughes: Well, I'm coming to the end—I'm sure—oh I know one thing I wanted to hear your opinion about and that's California as a setting for venture capital. I know it's changing; I know it's spreading out around the world, but still, I believe it's fair to say that the nucleus of venture capital is still in this area.

04-00:09:04

Rock: That's correct.

04-00:09:06

Hughes: And specifically, I guess, in Silicon Valley, although here we sit in San Francisco. Why is that?

04-00:09:17

Rock: [pause] For a couple of reasons: first of all, California is always a place that people came to looking to change their lives and the old, "Go West, young man." And there's a free spirit out here that didn't exist and couldn't exist in the East. So that's one reason. The other reason is that at Stanford the provost, and before that the head of the engineering school, was a fellow named Fred Terman. He had the bright idea of letting his post docs take a day off a week to go work someplace—to form a company or do whatever they wanted to do. That's how Hewlett and Packard and Varian got started. This was unknown at schools in the East.

04-00:10:44

Hughes: MIT wasn't doing anything [like that]?

04-00:10:46

Rock: It did not do that. So these peoples formed companies, Varian and Hewlett-Packard, and so on. And he also prevailed on Stanford—they had all this land out there, to let companies build plants on their property and give them a long-term lease. And so the atmosphere was created. So those two reasons are really what—

04-00:11:22

Hughes: And that area became Stanford Industrial Park, right?

04-00:11:27

Rock: Correct.

04-00:11:30

Hughes: So that means, in that particular case, bringing technology—people with ideas into proximity, because one of the things that one reads about Silicon Valley is that it's just a cauldron of ideas that people are sharing, supposedly freely. I suppose it's selective, but it's a very porous place that ideas are floating around in a way that perhaps doesn't happen as freely on the East Coast?

- 04-00:12:13
Rock: Well, it certainly didn't. Everything was very close in and tight.
- 04-00:12:17
Hughes: And I suppose with everything being electronic now, that that's less true.
- 04-00:12:23
Rock: Oh I think that, yeah.
- 04-00:12:26
Hughes: Do you want to say anything in terms of the culture of this region as perhaps another factor?
- 04-00:12:37
Rock: Well, it's the people who came out here who were free spirits, so to speak. I don't know what else to say about it.
- 04-00:12:55
Hughes: Well, people talk too about the—failure does not condemn you.
- 04-00:13:02
Rock: Well, that's a worldwide thing—that's why there isn't new startups or wasn't new startups in Europe, because once you failed, you were through.
- 04-00:13:25
Hughes: Right, yeah.
- 04-00:13:25
Rock: And here, it's a learning experience.
- 04-00:13:26
Hughes: But is that less true in Europe nowadays?
- 04-00:13:32
Rock: Oh yes.
- 04-00:13:32
Hughes: So it really has become a global culture.
- 04-00:13:37
Rock: Oh yes. I think it's still *more* true here. But definitely the culture has changed worldwide.
- 04-00:13:54
Hughes: Do you want to say, in ending, your feelings about what venture capital may have meant for American innovative power, American innovation? Or is that just too general a question?
- 04-00:14:19
Rock: [pause] Well, it certainly fostered a lot of companies that wouldn't have happened. I can't see how Intel or Scientific Data Systems could have happened without venture capital. And it's still true today, but not to the same

extent, because the amount of money required is almost corporate to start up a new business.

04-00:14:59

Hughes: So venture capital can't play as large a role.

04-00:15:07

Rock: I don't think so. And I don't think venture capital, over the long term, will be a profitable business.

04-00:15:18

Hughes: Really?

04-00:15:17

Rock: So far I'm right, but we'll see.

04-00:15:20

Hughes: You mean thinking of what's happening to us now with the economic [downturn]?

04-00:15:24

Rock: Oh no, not just now. It started six, seven, eight, years ago. Only two or three firms are going to be profitable.

04-00:15:30

Hughes: Just because there's too much competition?

04-00:15:34

Rock: Too much competition.

04-00:15:37

Hughes: Well, then what will that mean for the country's economy?

04-00:15:47

Rock: I don't know, because the venture capitalists today are not interested in small companies. They've got too much money. They can only be interested in huge things.

04-00:16:04

Hughes: Maybe that will change. Maybe that will be one of the silver linings that comes in—

04-00:16:12

Rock: Well, let's hope so.

04-00:16:14

Hughes: [chuckling] All right. Shall we end there?

04-00:16:16

Rock: Good. Thank you.

04-00:16:17

Hughes: Well, I thank you for your time and your willingness to talk to a naïve interviewer.

[End of Interview]