

Mary Walshok

Interview conducted by

David Caruso, PhD

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SAN DIEGO TECHNOLOGY ARCHIVE



Mary Walshok



Dr. Mary Lindenstien Walshok is a Member of Advisory Board at Finistere Partners, LLC. She is the Dean of the University Extension and Associate Vice Chancellor of Public Programs at the University of California, San Diego (UCSD). Dr. Walshok is responsible for a large number of publicly focused academic initiatives including University Extension, Summer Sessions, UCSD-TV and UCTV, UCSD CONNECT, San Diego Dialogue, and UCSD Civic Collaborative and Executive Education. She also serves as an Adjunct Professor in UCSD's Department of Sociology, teaches one upper division or graduate course a year, serves on a variety of Ph.D. committees, supervises independent study students, and lectures on campus. In addition, Dr. Walshok is a visiting professor at the Stockholm School Economics since 1998 and also holds an appointment in the Department of Continuing Education at Oxford University. She has been decorated with the rank of Knighthood, First Class, of the Royal Order of the Polar Star by King Carl XVI Gustaf of Sweden, in recognition of her significant contribution to the development of entrepreneurship in Sweden. Dr. Walshok has also been honored by the City of San Diego with a Mayoral Proclamation declaring May 2, 2002 as "Dr. Mary Walshok Day," for work in Sweden and the U.S. on entrepreneurship, leadership, and community service. In addition, she was elected International Social Science Member of the Royal Swedish Academy of Engineering Sciences in 1999.

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THE SAN DIEGO TECHNOLOGY ARCHIVE**INTERVIEWEE:** Mary Walshok:**INTERVIEWER:** David Caruso**DATE:** 13 June 2014**DISCLAIMER:** Transcript was edited by interviewee for clarity of content and may vary slightly from the audio recording.

1 **Caruso:** Today is the 13th of June, 2014. This is David Caruso. I'm with Mary
2 Walshok at the University of California, San Diego in La Jolla, California. This is an
3 interview as part of the San Diego Technology Archives Oral History Project. Thank
4 you again for meeting with me to talk a bit about your experiences. As I mentioned
5 to you what I'd like to start with is just hear a little bit about where you grew up,
6 your general family life, where you came from.

7 **Walshok:** I'm a Swedish American. My parents were both immigrants from
8 Sweden and most of my growing up occurred in California and in Palm Springs.
9 Both parents came to this country before World War II and through complicated
10 circumstances my father ended up having a very famous Swedish restaurant in Palm
11 Springs in the '50s, '60s and '70s. I grew up with a lot of movie people, playing tennis
12 but paradoxically had European parents. So went to Europe a lot but also—and this
13 is not trivial—because of our proximity to Los Angeles, the movie industry, knew a
14 lot of ex-pats and Holocaust survivors and others. I was born in 1942.

15 So it was a very rich childhood. I was a good student. It was the Sputnik era. We
16 got fast tracked. I ended up going to Pomona College in Los Angeles. There I fell in
17 love with learning. Graduating from college in 1964. At that time girls didn't—well
18 they couldn't get into most of the business schools or law schools in the country.

19 **Caruso:** It was only around that time and actually somewhat later that some of
20 the major universities like Johns Hopkins and Harvard allowed...

21 **Walshok:** That's right. I think the first female class in the Harvard Business
22 School was '72. So it was seven or eight years later. But I had been a reasonably

23 good student. If I may be candid my role model was an extraordinary dean of
24 women, Swarthmore, Penn, and Ph.D. in math. She said if you want to be a dean of
25 women get an academic degree. So I pursued a Ph.D. in Sociology at Indiana
26 University, but I really went to Indiana rather than Berkeley or Stanford, which were
27 my other choices because they had an opera program and I thought I might have a
28 career in music.

29 I think these random walks are important because I've discovered in my career here
30 at UCSD that the dean of sciences went into minor league baseball for a while then
31 went back and got his Ph.D. I'm convinced that part of the DNA of UCSD and of
32 this place is it's full of people like me who thought they wanted to be baseball
33 players or opera singers and versatile, flexible, tenacious, but also opportunistic. In
34 graduate school I met my husband.

35 **Caruso:** As an undergraduate were you studying sociology as well?

36 **Walshok:** I studied sociology and anthropology and graduated cum laude and—
37 oh, I think this is important for the record—I was in the class of '64. One of my
38 closest friends married Steve Pauley, the son of Ed Pauley, the regent who was the
39 nemesis in the life of Roger Revelle, who we often think of as the founder of our
40 campus. Bill Revelle was a year behind me at Pomona and he married Eleanor
41 McNown and I had stayed in the Revelle's house because I had sung in the glee club.
42 Bob Irvine, whose family contributed the land that is now UC Irvine, was in Steve
43 Pauley's class. The son of the first chancellor of UC San Diego, Jim Galbraith was in
44 my class. I just went back to my 50th reunion and saw Bill Revelle, Steve Pauley, Bob
45 Irvine and Jim Galbraith and said, "Well folks, here I am 50 years later teaching and
46 working at the University that was just an idea in the minds of your fathers."

47 I can remember visiting those homes and knowing—Pauley Pavilion at UCLA is
48 named after Steve's [dad], Irvine the city and UC Irvine after Robert's grandfather.
49 It's a strange series of coincidences because, again, the randomness of life. Both my
50 sister and I dated Cal Tech boys who were two of the first Ph.D. in physics students
51 here. So long before I got a Ph.D. in sociology, [I had connections to the UC San
52 Diego campus,] I met my husband who got a job at San Diego State University. I
53 trailed him as spouses did in those days. I had all these connections to this place,
54 from La Jolla to the Torrey Pines Mesa. People who turned out to be from a historical

55 point of view—by which I mean not just in the archives, but in lots of books—the main
56 players in the founding of this anchor institution on the mesa.

57 I think these personal relationships were important when I came here. For example,
58 Steve Pauley’s wife hosted a lunch for me when I first came because they lived in La
59 Jolla at the time. So here I am, a young woman. I got my Ph.D. when I was 26. I
60 met my husband when I was 25. [I come to La Jolla and am immediately integrated
61 into the affluent, professional community because of my background.]

62 **Caruso:** When you were pursuing your doctorate in sociology what was the
63 rough makeup of your class?

64 **Walshok:** There were about 90 graduate students and 4 women; a nun, me, a
65 very bright, married woman from Brooklyn who was there with her husband, and a
66 woman from the Philippines. So it was very unusual. I was certainly one of the
67 youngest people in my Ph.D. program.

68 **Caruso:** Was the faculty predominantly male?

69 **Walshok:** It was all male. There was not a single woman on the faculty. In fact
70 when I met my husband late in graduate school, who was getting a Ph.D. in political
71 science at Indiana University, I met my first woman faculty member. At the time she
72 was a lecturer with a husband on the faculty. She eventually became a professor at
73 IU and got the Nobel Prize [in economics] a few years ago. She was on my husband’s
74 Ph.D. committee.

75 **Caruso:** Oh, who was that?

76 **Walshok:** Elinor Ostrom. At the time Elinor was a lecturer and her husband was
77 a professor in political science. So that gives you a sense of the times. I think it’s
78 very important because I feel my personal history maps a lot with the history of
79 [many] other people who came here (predominantly men) in the ‘50s, ‘60s and ‘70s,
80 and as women began to enter the scene at UCSD and in technology companies and
81 R&D institutions in the ‘80s many had [circuitous] career paths or history. I think a
82 lot of us were risk takers.

83 **Caruso:** You mentioned the Swarthmore, Penn dean and going into
84 administrative roles at universities. Is that what you wanted to do?

85 **Walshok:** Well at Pomona College, except for the French teacher, it was all men.
86 I had fallen in love with learning. My parents were immigrants. I'd grown up in
87 Palm Springs, pretty shallow community. I was just smitten with the academic life.
88 So I knew I wanted to be on a campus. The only adult woman I saw on the campus
89 was the dean of women.

90 **Caruso:** So you come down to San Diego following your husband's position.

91 **Walshok:** Yes.

92 **Caruso:** What is it that you wound up doing when you got here?

93 **Walshok:** Well, what I should clarify is we both got jobs in 1969 in the state
94 university system. I was at Cal State Fullerton and he was at San Diego State
95 University. He got the exact job he wanted and I took what I could get. For three
96 years I worked there. We lived for one year in Laguna Beach. He joined a school of
97 public administration which was his core interest. Actually his dad was close to Pat
98 Brown, and so some of this history is my husband and his family. His family was
99 very active in progressive democratic politics in the State of California throughout
100 the late '40s into the late '60s.

101 My spouse really wanted to come back to California more than I. So we narrowed
102 our job choices. After a year we found a little cottage in Del Mar and we chose that
103 place because there was a train that two or three times a day stopped in Fullerton,
104 which was a couple of miles from the school where I was teaching. So it looked like
105 it was going to be a good arrangement.

106 Again, talking about serendipity and random walk because I'd done my dissertation
107 with the Kinsey Institute on the sexual activity of college women. Through that
108 work I learned what Kinsey had learned in the 1940s that women who were soon to
109 marry were more likely to have premarital intercourse and rarely used birth control.
110 In other words, premarital intercourse was like a first step to marriage in my
111 generation where reliable birth control was not readily available. The more active
112 women, women who actually planned for sex and purchased diaphragms were in
113 those days [considered] promiscuous. Women who were very career oriented, i.e.,
114 pre-law, pre-med either had no premarital sex or if they were sexually active,
115 practiced birth control assiduously. They were women who couldn't afford to get

116 pregnant because they didn't see marriage as their only path to [a successful adult
117 life.]

118 **Caruso:** As the end.

119 **Walshok:** As the end. So I know that sounds odd, but that research launched me
120 on a path, which is connected to the fact that today I'm a dean of an extension
121 program. I elucidated how financial independence and independent identity were a
122 core part of how women organized all the other parts of their lives including
123 planning for family, for sexuality, for other things. So my dissertation about women
124 and their life goals emerged just at the time, 1969 (the year I got my Ph.D.) when the
125 world was exploding. Betty Friedan had written her book about five years earlier,
126 but the activism in the women's movement was just then exploding. So I was doing
127 a lot of public speaking around Los Angeles and Orange County including an event
128 at the Nixon White House to brief folks on women's changing roles. Actually
129 someone at UCSD spotted me in a piece in the *L.A. Times*. He was in San Diego and
130 knew my husband and said, "Why isn't your wife down here? There is a job as
131 director of women's programs opening up at UC San Diego. She should apply."

132 So I applied. I had no idea it was a job in the extension service which is not a core
133 faculty unit, but an academic unit designed to be a bridge between traditional
134 degrees and academic activities and the economic and workplace education needs of
135 the community. As I interviewed for the job I got very excited because it
136 represented an opportunity to be a bridge between women who were returning to
137 school or college, young women who were thinking narrowly about college or
138 university experiences and could help broaden their horizons. So I took a leave of
139 absence from my professional position to come and do this. It was also ten minutes
140 from my home in Del Mar. Not a trivial issue.

141 Back to the technology history because I think personal relationships are not trivial.
142 Now I'm 30. So it's what, seven, eight years since we've graduated. My Pomona
143 College girlfriends who lived here, three or four of them were married to already very
144 prominent men in this community. So the minute I let one of them know, "Guess
145 what? I'm going to be at UC San Diego," Marilyn Pauley, daughter-in-law of Regent
146 Ed Pauley...

147 **Caruso:** So Steve's wife?

148 **Walshok:** Steve's wife gives me a ladies lunch in La Jolla. As far as I'm concerned
149 the rest is history because I entered a campus environment, which [as a consequence
150 of civil unrest] in the late 1960s and 1970s had completely withdrawn from any kind
151 of connection to this community. In the '50s and early '60s we were embedded
152 because of our close connection to the defense establishment and that long history is
153 in the archives and is in the book Abe and I wrote. We were the Division of War
154 Research for the University of California throughout World War II and instrumental
155 in creating—if you will—the Defense Research Establishment, the growth of the
156 Office of Naval Research, NSF, and enormous beneficiaries of all of that.

157 I was living through that history, in the 1960s and 70s, which I have written about.
158 Very, very interesting. So from 1972 until about 1980 my life here was very engaged
159 in community outreach, women's activism and—not activism in terms of feminist
160 activism but setting up lecture series on women's rights and women's issues,
161 developing courses and seminars on securing credit which was a big issue in those
162 days, helping women do career planning in order to return to school and return to
163 work.

164 **Caruso:** So why was the University interested in that sort of engagement at that
165 time?

166 **Walshok:** It wasn't the University. It was the Extension. So the University had
167 no Womens Studies program and no women faculty to speak of, but Extension—
168 because it's anchored in the community—was getting lots of requests and inquiries to
169 do more, particularly for already educated, affluent women. We tend to serve the
170 post-baccalaureate adult. So I was just inundated [with requests for education
171 initiatives]. Every woman in the Junior League, for example—these are very
172 conventional organizations—would enroll in a course on assertiveness training, and I
173 would do full-day seminars on women and credit for example.

174 The other thing, David, that I think is important is, again, remember women were
175 still very much marginalized at this time. So the women that I found and met to
176 help teach these programs or to give lectures in the 1970s, within 20 years were
177 [Congresswomen,] chief of staff for the governor of California, on the boards of
178 Sempra Energy or Biogen Idec or Boston Scientific. In other words, we all sort of
179 rose together. So my history is very much around the power of networks, but in my
180 case of competent, powerful women, if that makes sense.

181 **Caruso:** How did you find the women to give those lectures? What networks
182 were you tapping into?

183 **Walshok:** It started with friendships. It started with that lunch with Marilyn
184 Pauley, Cindy Rodi, Judy Parzen, and Maureen O'Connor who later became the
185 mayor of San Diego. As you can probably tell I'm gregarious. We'd get invited to
186 dinner parties and then I'd talk to people. It was like concentric circles of influence.
187 The reason this all becomes important is that by 1980, '81, '82, then chancellor Bill
188 McElroy (he'd been the chancellor the whole time I was here) started to think about
189 private sector development. UCSD in the late '70s only had three or four people in
190 development. We must have 150 today.

191 He wanted to create industry connections. He wanted to start meeting our
192 equivalent of the captains of industry. The development person who knew me
193 socially, knew I was on community boards. I was in the Junior League and I made
194 speeches. So I was in the paper a lot as a sort of UCSD woman, although Helen
195 Meyer did get the Nobel Prize. Have you heard this story about how she came to La
196 Jolla? It's in our book. It's in a lot of books. But it's one of the early apocryphal
197 stories about this place--this is a big digression.

198 **Caruso:** That's fine.

199 **Walshok:** One of the early recruitment strategies of UCSD with its faculty was to
200 hire at the most senior level. As Jim Arnold, one of our founding faculty members in
201 chemistry said, "We only wanted people full of piss and vinegar." He said, "But we
202 were also smart because lots of other universities had mandatory retirement. We
203 didn't. Most other universities wouldn't hire a competent spouse. We did." So they
204 brought the Meyers out here and two years later she got the Nobel Prize. It was her
205 first professorship and she was in her 60s. Swear to God the headlines in *The La Jolla*
206 *Light* were "La Jolla housewife wins Nobel Prize." So David, that's the world. Does
207 that help?

208 **Caruso:** Yes.

209 **Walshok:** But this is not about Mary Walshok. This is--if anybody's doing oral
210 history or trying to understand the dynamics of a region about understanding how
211 people become nodes in powerful networks. I think part of the story I'm telling you
212 is because of Pomona College, because I was a writer and a speaker and one of the

213 few women. I was drawn into social networks, which [proved to be powerful and
214 civic] business networks and into organizations like CONNECT, which were enabled
215 by the trust and credibility I had through those social networks. What happened
216 with Bill McElroy was significantly amplified when Richard Atkinson came. That's
217 the interesting part of the technology history I can share with you. I knew
218 everybody [in town at a moment in history when the university had significantly
219 distanced itself from the "townies."]

220 I knew the CEO of Cubic and I knew the CEO of Hewlett-Packard and I knew the
221 guys who had started a company here called Spin Physics that was acquired by
222 Kodak. So people started saying, "Could you help us get him to a meeting? Could
223 you help?" –it was never her. That's no longer true, but it was in those days. So I
224 helped to bridge early on. I can't remember the exact date, but I keep thinking it's
225 around '81 or '82 because it's shortly before Dick Atkinson comes to be the
226 chancellor.

227 I was just 40 and a woman facilitating roundtables where the [UCSD] question was,
228 "We've been somewhat remote from the community over the last 20 years and we
229 want to reconnect. What does industry need from us?" There was this outpouring
230 of, "We want access to your labs. We want joint research partnerships. We're
231 interested in interns. We want you to be relevant to our science and technology
232 needs."

233 There's a subtle point here and then I'll stop giving you this historical view that's in
234 our book and in the archives in the library. There's a wonderful interview with
235 Sanford Penner who came here from Cal Tech to be Vice Chancellor for Academic
236 Affairs just as the Vietnam protest was going on and accelerating in Cambodia. In a
237 single year on this campus a protestor, [George Winne, Jr.], self-immolated—I mean
238 he burned himself alive. Angela Davis, who was a graduate student here, was
239 supporting the Black Panthers. [A group of faculty was] suggesting Eldridge Cleaver
240 as a professor in [Lumumba-Zapata] College—seriously, that's what [Thurgood
241 Marshall College] was called those days and this was happening in a conservative
242 military town. The rupture was extraordinary. Because if you look at the archives,
243 the newspaper stories, who advocated for us I mean a whole chain—representatives
244 from the Chamber of Commerce went up to the Regents to fight Ed Pauley and stand
245 up for Roger Revelle in the late 50s and early 60s. "We really need a university."

246 Twice citizens voted to give land, first Pueblo land and then Camp Matthews to
247 create a campus on the Torrey Pines Mesa.

248 This community was in love with the idea of an advanced science and technology
249 research center largely because they knew it would keep defense contracting in San
250 Diego. But for better or for worse, all of the ruptures of the late '60s and 1970s had
251 created a huge chasm between the community and the University. We were fine
252 because we were doing basic research. We didn't have a school of engineering. We
253 didn't have a school of business. We were science and basic science and we were
254 getting all this NSF and NIH money. So we were very, very successful and had no
255 need whatsoever for this community. But that began to change in the '80s.

256 **Caruso:** Just a couple of questions. You mentioned that you had connections
257 to a lot of individuals. In the '60s and '70s were there any—you talked about some of
258 the lecture series from the extension school and focused on women—were there any
259 self-organized groups in the area for those in industry?

260 **Walshok:** No. There were no industry groups that I knew of. Here's what—you'd
261 have to check with people who know these worlds better than I. We had started a
262 medical school and we had acquired the county hospital which was downtown and
263 we had a hospital auxiliary. Now you can't laugh about these things. We had
264 clinical faculty. So the medical school even though it was predominantly graduating
265 researchers in medicine in the early years, not clinicians, had built a clinical faculty
266 and had a women's auxiliary made up of powerful women. So there was a
267 connectivity to the community if you understand what I mean.

268 So if you went to the party of someone who was a medical doctor you were very
269 likely to meet faculty from the med school because they were interacting early.
270 Nothing like that in applied physics, chemistry, or biology. Nothing like that.
271 Scripps Institution of Oceanography, Bill Nierenberg, he had industrial affiliates.
272 Shell Oil, British Petroleum. Scripps was embedded in the sort of global corporate
273 world that was interested in things like energy and climate and the sea and Roger
274 Revelle had similar connections, but not so much to local yokels if you understand
275 what I'm saying.

276 So in those two institutions prior to my coming I got many of the people I knew
277 were in those networks, but those networks were not about commercializing or
278 building technology companies. It was tech transfer to larger [companies].

279 **Caruso:** I was going to be asking about Scripps as well since it has been in the
280 area and I wasn't sure.

281 **Walshok:** Just pivotal. In those days, David, there was so much federal money
282 and we were so good at getting it because of the pre-existing relationships
283 established in the '30s and '40s through the war buildup and then through the Cold
284 War that we were fat cats. We were kind of like General Motors. "What do we need
285 the community for?" In fact, the Vice Chancellor Wayne Kennedy, who had come
286 from Washington, D.C. with Dick Atkinson and who I love and admire when I said
287 to him in the 1980s, "I'm getting to know all these people in industry and they would
288 be great supporters of the University." He said, "Mary, the transaction costs of the
289 small amounts of money and support we would get from any of these industries
290 aren't worth it. The federal government is what counts." So the culture here was
291 either you work for the Defense Department or you do federally-funded research.
292 That was basically the culture here. I would say particularly from the post-World
293 War late '40s well into the early '80s. So whenever I write or tell the story of UCSD I
294 point out Bill McElroy was the first to put his toe in the water because he saw that
295 enterprises such as SAIC and Linkabit were starting up and percolating here.

296 **Caruso:** That was also going to be one of my other follow-up questions was—I
297 don't know if you know why, but I am curious to know why Bill McElroy, as you put
298 it, put his toe in the water of the industrial groups. I could see what companies could
299 use from UCSD researchers. "Oh well you're working on this area? Come and intern
300 with us." That's going to be for company development and growth. But what would
301 be getting back to...?

302 **Walshok:** So this is what—it's very important I think. He had a couple of vice
303 chancellors that he brought with him from Hopkins and from Washington, D.C. Bill
304 had been head of NSF, Dean of the Medical School or Dean of Science at Johns
305 Hopkins. He was another example. His wife was my age. It was a second marriage.
306 She'd never been a professor. So when Marlene—she was a great scientist—died of
307 cancer, young—in fact her work was on the cover of *Time Magazine*. I mean fantastic
308 woman. Marlene Deluca.

309 But when Bill and Marlene came out here [in the late 1960s], he brought Bud Sisco.
310 He had a vice president for external or community affairs who said, "We better have
311 a development function. We're starting to get alumni." So it was a very early move

312 to create a development function at a brand new campus. They hired a man who in
313 the history of UCSD, in my view of the history of this campus, is terribly
314 underappreciated and unsung. His name was Ray Ramsayer. Ray had been the
315 development director for of all places Berea College, which is a religious Bible belt
316 college that was raising more money than most colleges at that time in America.

317 So Ray was—by 1970s standards—a Cracker Jack development guy. He adopted me
318 when I came because he was lonesome. He had a small office and an alumni
319 relations person and his job was to get to know the community and organize lunches
320 for Bill McElroy so he could get acquainted with [business leaders including the] big
321 defense contractors. But the problem, David, with defense contractors and again
322 this is in our book, is that the federal government is their customer. So nobody's
323 going to get super rich if you're doing exclusively defense contracting. You can make
324 a lot of money, but you don't become a billionaire.

325 **Caruso:** There's only one customer.

326 **Walshok:** Yes, there's one customer and it's competitive bidding and you've got
327 to keep your overheads low and you don't accumulate wealth in the manner of
328 General Motors. It's just a different ethic I think and a different culture than in
329 automobiles or refrigerators. You mentioned Hopkins. I think it's very, very
330 interesting that in my opinion the two pivotal chancellors on this campus both came
331 from great private research universities, McElroy from Hopkins and Atkinson from
332 Stanford. So those were the two chancellors I grew up with if that makes sense.

333 These were men who were extraordinarily well connected, extraordinarily influential
334 in the basic science community but they had lived and worked on campuses that had
335 connections, [government and industry]. So they evolve into the chancellor role at a
336 young UC San Diego and they say, "Where are my industry advocates?" It wasn't just
337 about cash. It was about advocates for [the value of a research] university,
338 particularly in Washington and in Sacramento. It was financial but not always direct
339 financial contributions. At least that's how I remember the history.

340 So that toe in the water that McElroy put created an ability and a list of names that
341 Ray Ramsayer, his development officer, could begin to leverage as we transitioned
342 into the 14 years with Dick Atkinson. Dick's the one who made me—I wasn't even
343 Dean when Bill McElroy asked me to do that. I mean I was still women's programs.
344 It's so incongruous, right?

345 **Caruso:** Yes.

346 **Walshok:** I can point out to you the Evans' family who owned the Lodge and
347 hotels downtown—she's about ten years older than I am but she took courses and
348 came to lectures up here and when the book that Abe and I wrote came out, the
349 family opened the Lodge and gave me a book party at their expense for 150 people.
350 You go, "Well why?" Well we've known one another for 40 years. Right? It's
351 friendship. But who comes to my book party? The whole damn tech community on
352 the mesa in part because they know Anne but in part because it's a book about
353 innovation and it's UCSD.

354 So I think the story that is powerful from my point of view, David, is there's a
355 tendency to think it's all about expertise. "Isn't this community lucky that UCSD
356 somehow appeared and brought all this talent here? We're the reason the tech
357 economy works." I think my vantage point is this university is here because there
358 was a community that was hungry for science and technology. If you go back to
359 early history they saw it as a path to economic growth that was antithetical to
360 traditional industry—the gritty, grimy, automobile manufacturing steel mills of the
361 industrial Midwest and East and that's very much in the DNA of [those who settled
362 here and built] this place.

363 But it also was that the defense companies and the military and particularly Navy
364 and Aviation, which are our two, were here. It wasn't Army—Marines are here, but it
365 was really the Navy and Aviation with satellite communications and with better
366 materials and better design. They were clean industries and they came after the
367 world was saved for democracy by the atom bomb and Vannevar Bush. The citizens
368 of this town embraced probably 25, 30 years before most communities in America
369 that economic prosperity for them was going to be tied to building R&D
370 infrastructure. They zoned this land you and I are sitting on in the '50s for research
371 and light industry. It could have been high cost housing. It could have been resorts.
372 It could have been more golf courses, but it wasn't.

373 So my early history is part of that history. I happened to get a Ph.D. in Sociology,
374 right? I happened to follow my husband and get a job here at UCSD. I happened to
375 get to know Bill McElroy and Ray Ramsayer and then most importantly Dick
376 Atkinson. All of that personal history and those personal connections kicked in in a
377 way that allowed me to make modest contributions to the evolution of the campus.

378 **Caruso:** So one thing I'm curious about is—I can understand where people in
379 the '40s and '50s were coming from in terms of developing zoning laws with the
380 hope that bringing R&D is going to bring prosperity—but I'm assuming that the
381 people who were doing that in the '40s and '50s weren't necessarily there to keep
382 that vision going into the '60s, '70s and '80s. So I'm wondering how that continued.

383 **Walshok:** Yes. I think you're making a very good point and we try to make it in
384 the book. There's so much fricking luck in the history of this place, just damn good
385 luck. Because you are absolutely right. There a chasm grew between civic leaders.
386 In other words, people in the same positions who in the '40s, '50s—well, let's go back
387 to the '20s when the Chamber of Commerce created a fund—no, 1917.

388 The Chamber of Commerce created a philanthropic fund to support the Marine
389 Biological Institute in La Jolla, which became Scripps. Their money enabled Bill
390 Ritter and guys from Berkeley to come down here. E. W. Scripps gave his yacht as a
391 gift, which enabled them to go out and collect specimens and the rest is history.
392 Yes, so that kind of synergy and connection—they were all at the same cocktail
393 parties and reading groups—was essentially dismantled, I would say by the mid-'60s,
394 and that was Vietnam. That's when the loyalty oath was required. That's when the
395 University as a whole decided it would no longer do classified research.

396 Up until then, hey, throughout World War II we were the UC's Division of War
397 Research. In '64 we were no longer doing classified research on a UC campus. So
398 then you have what you don't expect because all the UC universities are where
399 scientists are building atomic bombs and making the world safe for democracy. I
400 don't mean that in a disparaging way at all. However, by the '60s, we were seen as
401 just a bunch of radicals who are trying to tear down American society. The
402 newspapers were full of it. Bill McGill was chancellor for two years and was basically
403 run out of town because he wouldn't fire Herbert Marcuse and ask Angela Davis to
404 leave the campus. It was a terrible, terrible time.

405 So the scientists who had always really just wanted to work in their labs pulled back
406 and there was no impulse because you were getting this flow of money. So the
407 serendipity is not only is there all this flow of money—think Vannevar Bush “Science
408 the Endless Frontier” —it was in the mid-'50s when all that started to happen, right?
409 So you get all this infusion of federal research dollars, but what people forget is that
410 in 1971 Richard Nixon declared a new war, a war on cancer and this represented a

411 new infusion of money into the community from NIH. So in the midst of all of this
412 hoopla, and protest, new centers of resources for basic research are emerging. We
413 mobilize because we were a basic science campus and by then with Salk and TSRI.
414 So the whole mesa, I think it's a fascinating history. The science capacity of the
415 region was growing exponentially as its isolation from the local economy and the
416 local civil society was also growing.

417 **Caruso:** Again, this might be a bit beyond, but—Hybritech, Ivor Royston, late
418 1970s. Was the University starting to think about what it should be doing with
419 research that's coming out of the institution?

420 **Walshok:** See, you have to remember the founders of CONNECT. That's
421 Hybritech, Linkabit, and [Atkinson at] UCSD, and local venture capital guys
422 understood that a lot of companies were starting up here on the mesa [and could
423 recharge what in the 1980s was a troubled local economy].

424 In our book, we point out that by the '60s, late '60s General Atomics had spun out
425 over 30 companies, of which, SAIC, went on to become a Fortune 500 and Titan
426 which is still here and is huge. Cubic was here and Cubic was a big defense
427 contractor, but was moving into some commercial applications even in the late '60s.
428 If you're a civic leader, you're saying, "Oh well we're in great shape. General
429 [Atomics] is employing thousands of people and SAIC has spun out and is hiring at
430 the rate of 40 people a week, [as have lots of other companies]."

431 Bottom line, if you're a civic leader and you're following where the jobs are coming
432 from, you start to notice something's going on that mesa. [Downtown started] to
433 take notice, especially, subsequent to the enormous local economic crisis—this
434 preceded the defense wind down of the mid-80s. That crisis was the savings and
435 loan, housing and banking crisis of the late '70s in which cities such as Phoenix and
436 San Diego were just devastated. We had a couple of Fortune 500 companies;
437 Wickes, a furniture maker moved because things started to get expensive here.

438 The city created an economic development corporation for the first time. We had
439 never had one in San Diego during Mayor Pete Wilson's administration. He's kind
440 of my hero in this story. He went on to be our governor and senator. He was a very
441 progressive mayor who brought with him pro-environmental and economic
442 development strategies that were aggressive. He was the one who amended the land

443 use parameters for the Torrey Pines Mesa to include science and technology based
444 companies because before that it was mostly not-for-profit R&D institutions.

445 He advocated for some of the first commercial buildings on the mesa—Linkabit and
446 Hybritech—to help them establish for profit companies on the mesa. There were all
447 these clues downtown at both the Chamber of Commerce and the newly formed
448 economic development corporation that we needed to pay attention to the
449 enterprises on the Torrey Pines Mesa. So people would call on McElroy, [then
450 Chancellor of UCSD]. They would call on the director of TSRI, the director of Salk.
451 “Is there anything we can be doing?” There was nothing that really took hold until
452 the summer of ’84.

453 Again, this is a homely, personal story. Richard Atkinson by now had come to UCSD
454 as the chancellor. I’m now Dean of Extension. Soon after his arrival here he says,
455 “We don’t have a business school but every great research university has connections
456 to industry especially executive programs for scientists and engineers and industry
457 leaders.” In his first year, I became Dean of Extension and within Dick’s first year we
458 launched an Executive Program for Scientists and Engineers. The only reason I was
459 able to do it was because of these relationships I’d had since the ‘70s and knowing all
460 the tech guys. We filled the class. It was a great success. We still have it. It’s 40
461 years later and we still have waiting lists for this executive program for scientists and
462 engineers.

463 So Dick made all these moves. He expanded the development office and he insisted
464 that every week he’d have at least two lunches in his office with community leaders
465 or business leaders. A momentum was starting to build with the community after
466 close to twenty years of virtual isolation. I think this is an important part of the
467 technology history and I’m not going to get my dates right but if a historian reads
468 this he or she can go in and find the exact dates.

469 By 1983, San Diego—under the leadership of the Downtown Economic Development
470 Corporation which itself was only seven or eight years old—enrolled Dick and his
471 very able staff member from Washington, D.C. –Bruce Darling (now at the National
472 Academy of Sciences), Wayne Kennedy who had been at the University of Maryland
473 Medical School, me, because of the connection to industry to contribute to engage in
474 a number of initiatives to enhance regional competitiveness. In the early ‘80s the

475 specter of the advances in German and Japanese technology was overwhelming the
476 American industry; cars, televisions, computers, general electronics.

477 It was the tipping point in this region. So you had consortia of U.S. companies
478 coming together, SEMATECH, MCC, to accelerate innovation in technologies. There
479 were two or three others, but those are the two I remember because we went after
480 those. They would basically say, "We're Fortune 500 companies; 3M, Xerox, IBM and
481 we're going to locate a [major R & D] center in a U.S. city in order to invest in basic
482 research that will enhance our global competitiveness." The U.S. Council on
483 Competitiveness was established at this time. Young, the CEO of Hewlett-Packard
484 and Charlie Vest, the President of MIT were the co-chairs and enrolled the big
485 research universities and the big American technology companies. "We're coming
486 together to make sure we have education and research strategies that don't allow the
487 Germans, the Swedes, the Japanese to 'eat our lunch.'" So all of this was happening
488 when Dick Atkinson arrived as chancellor.

489 So we participated in two different bids to get these large consortia here. MCC was
490 chaired by Bobby Inman who was on the board of SAIC by then a retired admiral
491 from Texas. That went to Austin. SEMATECH, I didn't know those players as well,
492 but that went to Northern Virginia. Nobody in San Diego could believe it. How
493 could they? We have better research institutions. Why would you live in Virginia if
494 you could live in La Jolla, right? Why would you live in Austin? This was before
495 Austin City Limits. It really was a regional crisis. So remember we're small town,
496 David. We're not Philadelphia. We're not Boston. We're not San Francisco. We're
497 not L.A. You can get everybody in one room in this town, particularly then. It was a
498 real crisis.

499 Why do I say the summer of '84 was so pivotal? Because the man in that photograph
500 on the far right, not a technology guy, graduate of L.A. State University who drinks
501 Coca-Cola from 7:00 in the morning till 7:00 at night by the name of Dan Pegg was
502 the head of the [Regional] Economic Development Corporation and he hired an
503 intern, undergraduate intern from Stanford University who grew up here. I recently
504 chaired the board of a foundation he runs as he's now back in town, Richard Kiy, to
505 do an analysis of what San Diego needed to be able to grow its own companies.

506 There was a very clear consensus among civic leaders, (again, University's not a part
507 of this at all, David) by '83 that the only path to the future is to create and grow [new

508 technology] companies. It wasn't just that we lost the two consortia but what
509 economic development corporations were doing in the early '80s. A lot of them were
510 engaged primarily in business attraction, [not creation]. The "If we could just get a
511 big employer to move here" strategy. We could see the defense downturn coming
512 and we'd had the downturn, right, because of the Savings and Loan and real estate
513 crisis. So unemployment here was close to 10 percent, not on the Mesa, but
514 everywhere else.

515 So when I tell the story I say thank you to all the car [dealerships], real estate
516 developers and retail mall owners. [They were largely why we got a commitment to
517 technology commercialization in San Diego because they understood having
518 watched early developments on the Mesa.] If we wanted to grow the economy, grow
519 the workforce, particularly a high wage workforce, we needed to focus on the Mesa
520 and we needed to focus on creating companies out of advances in science. After all,
521 that little company, Linkabit, did so well. Look what happened with SAIC. Look
522 what happened with Titan. Look at this little company, Hybritech on the Mesa.
523 Aren't they in negotiations right now to be sold to Lilly?

524 IMED and IVAC were two medical device companies, which had previously sold to
525 Lilly [and Warner Lambert]. So if you and I took the time and my research team can
526 do this, we could document all the companies that were being created and sold or
527 growing through that period of the 1970s and early '80s. It wasn't hundreds but it
528 was dozens. So what this young [EDC intern], Richard Kiy did was ask, "How would
529 you turn these early successes into a new force for regional growth?"

530 His conclusion was San Diego needed to move beyond just being a Defense
531 contracting culture and begin to grow an entrepreneurial culture. So his
532 recommendation was to build a school for entrepreneurs at UCSD, which was
533 impossible. Nonetheless it opened the door to what turned out to be the next
534 tipping point. UCSD still didn't have a school of engineering. Our medical school
535 was still producing as many researchers as clinical graduates. There was no
536 [business] school on campus. There was no [professional school culture at UCSD] at
537 that time.

538 The chancellor saw Kiy's ideas as very interesting—he in fact made a very strong case
539 for the entrepreneurial culture in the Silicon Valley and how important that
540 ecosystem had been to getting technology out of the University and into

541 commercialization. In other words, Dick got it. He knew it. But he knew UCSD was
542 not Stanford, [with its strong entrepreneurial culture and professional schools]. I
543 don't have a business school. I'm in all these meetings. I am dean of Extension and
544 Extension is the closest thing to a professional school at UCSD at that time.

545 He realizes all he has is an extension school. We had an executive program for
546 scientists and engineers [filling the class in 24 hours]. We had gotten all these
547 companies in our pockets. So Dick said "Mary, go out and talk to people. Find out if
548 there's something we can do in the entrepreneurship space even though we don't
549 have any faculty, any capability on campus" [at that time]. That's how the
550 CONNECT program got started.

551 I need to tell you that I had had a fellowship from the Kellogg Foundation over a
552 three year period, [1984-1987], to focus my research on innovation economies. So it
553 enabled me to travel to Sweden and it enabled me to go to the U.K. and also to
554 spend some time in the Silicon Valley. Who I talked to were employers and players
555 in the Valley [and I began to understand the dynamics Dick saw as entering in the
556 San Diego region].

557 For the campus I did some interviews and I was the messenger, the interpreter,
558 about what people needed. Dick said, "Talk to Irwin Jacobs. Talk to David Hale.
559 Talk to some of these guys in the community and come back and tell me that we're
560 going to do something." He told the [EDC] delegation. "We're not going to start a
561 school of entrepreneurship but we're going to do something to help grow
562 companies." So again, the benefit of networks [kicked in as I began these interviews
563 for him].

564 I was able to easily get into offices of managing partners at law firms and banks and
565 others as well as talk to some of the CEOs. I heard two stories. The downtown
566 business leadership and all the businesses anchored downtown, all the law firms, all
567 the accounting firms, all the banks based downtown would look at me and say,
568 "Mary, if we're going to grow entrepreneurial companies based on science and
569 technology, the University has to do something to teach scientists and engineers
570 about business and about markets. They're all "in love" with their technology but
571 they never take the time to think about how to turn their idea into a product or a
572 service or if there's a competitive marketplace and how you get it financed. So

573 you've got to do really good business education." Because I knew a lot of engineers
574 and scientists, I also talked to them.

575 Here's the story I heard. "Oh I've just been lucky. I had a lot of defense contracts
576 and I was able to get good advice from my buddy in the Silicon Valley or I get
577 financing from the Silicon Valley (Hybritech) and I get my legal services in San
578 Francisco and actually we do our marketing out of New York." You know what the
579 really big problem here is? You'll never get a large number of entrepreneurial
580 companies if you don't change the local business culture because everybody in law,
581 marketing, accounting, and banking is anchored in retail, in real estate development.
582 What corporate law we have is defense contracting. "Nobody understands I.P., what
583 it means. Nobody understands angel, venture, boot strap financing. Nobody
584 understands that our compensation systems have to be different when you're
585 building an entrepreneurial company. So we can't even get the kind of HR help
586 much less expertise on marketing a science-based product. It's not like selling [real
587 estate], hamburgers, or appliances. You've got to be able to educate people about
588 the superiority of your technology first and then whiz bang marketing and
589 promotion kind of stuff."

590 So I came back to this little group around Dick Atkinson's table and shared this and
591 said, "I think we need to create something that brings all of these players into the
592 room. We have to do something that educates scientists and technologists about
593 the business side of the equation, but we're also going to have to increase the
594 technological literacy of our business community." I think that was an important
595 contribution that just came out of listening and everybody agreed.

596 So we launched the UCSD program in technology and entrepreneurship. We linked
597 the two. It was administered by Extension. We raised about \$70,000 through letters
598 to people in the community signed by Dick Atkinson. I wrote the letter [and the
599 chancellor signed asking for private support]. These guys, my business friends,
600 made the follow-up phone calls. "I want you to put \$2,000 in. I'm putting \$2,000 in.
601 Ray Ramsayer is in the room, also the development guy. We got it up and running.

602 A second critical thing that I think is important about this story. By now I'm 40, I
603 now have more self-confidence. I've had success working with these guys. Out of
604 the woodwork come retired executives and admirals from La Jolla and Rancho Santa
605 Fe who call the chancellor because now the chancellor is cultivating big donors

606 through development. “You know I have wonderful business experience and I
607 understand you’re starting a new program and I should be the director of that
608 program.” So I’m pushing away old guys from old industrial companies and begging
609 Irwin [Jacobs] and Buzz [Woolley] and others, “Help us find an entrepreneur
610 because we need a real entrepreneur to lead [this initiative].”

611 So it took us ten months. The toughest part of getting CONNECT up and running
612 was what the chancellor did which is what chancellor’s do, “Oh go talk to Mary
613 Walshok. She’s working with our advisory board. She’s got this fund. They’re
614 putting it together.” We were doing a few events; Meet the Researcher, Meet the
615 Entrepreneur, stuff like that.

616 So here’s the punch line. The Junior League. We go back to the Marilyn Pauley
617 lunch. I had joined the Junior League years earlier. One of my good friends in the
618 Junior League was a woman by the name of Anne Otterson. I knew her husband was
619 in tech [and he was a super salesman]. They’d sold their company eventually for
620 \$40/50 million which wasn’t bad in the ‘80s. She took me to breakfast and she said,
621 “Why aren’t you talking to Bill?” I said, “What do you mean?” “He’s driving me
622 crazy at home and I think he could really help you [with this tech entrepreneur’s
623 initiative].”

624 So I go back to the working committee and I learn that Buzz Woolley, one of our
625 critical supporters, five years earlier had fired Bill because he wasn’t effectively
626 leading the company, which eventually sold. He said, “You’ve got to be kidding.
627 You’re going to bring in the guy I fired?” I said, “Well he’s potentially available [and
628 full of enthusiasm and energy].” Then when I go to meet with Bill who I’ve only
629 known casually, I take the abuse that only a guy who is ten years older than I would
630 feel free to express—now remember the history of women and men—he said such
631 thing as “So are you saying if I were interested in this I’d be working for you?” I said,
632 “No, no. You wouldn’t be working for me. You’d be with me. This program is
633 anchored in extension but it’s financed by the business community. We’ve got an
634 advisory committee.” I described the people.

635 He said, “I haven’t had a woman work for me much less ever worked for a woman.”
636 He was [provocative, thinking] he was being cute. He was being cute. It took two or
637 three meetings and it also took two or three of the guys to weigh in but we got Bill.
638 He said, “Okay, I’ll try it for six months.” Well it lasted 14 years. He transformed

639 [our idea into a vital reality]. Within months it was no longer the UCSD program in
640 technology and entrepreneurship, but rebranded CONNECT with programs such as
641 Irwin Jacobs talking about how he started Linkabit. I mean it would have died
642 without Bill. It was a great idea incubated by a team, but only realized because of
643 the tenacity, imagination and chutzpah of Bill Otterson. So developing the right
644 idea and then getting the right person to implement it—I think is what UCSD did.
645 Dick Atkinson was absolutely critical to all of that, every step of the way. He hosted
646 lunches. He signed letters. He showed up at events. [He supported my/our choice
647 of Bill.]

648 Maybe what we can do after the break is that I can describe to you the quality of the
649 faculty who we were able to recruit to this effort, not just of the business people. The
650 magic of CONNECT, David, is that suddenly it's '85, and now the University is
651 starting to function like it did in '55 and the early '60s where you've got industry
652 leaders and research leaders in the same room at the same table talking about the
653 transformative basic research developments that are happening and what's near-
654 term and what's long-term so that the business guys can start thinking about how
655 you commercialize in the near-term, but with absolute respect, absolute respect for
656 the importance of the basic research for the long-term. For that culture even within
657 a small group—now it's community wide, but in a small group of stakeholders to
658 develop here in the early 1980s was essential. I mean, it was in the Silicon Valley. It
659 was in Boston, but it wasn't in many other places in the United States. So it was a
660 wonderful time.

[BREAK]

661 **Caruso:** As I mentioned, one thing that I am a little curious about—and you
662 can say something about it now or just incorporate it into discussing CONNECT
663 from '85 to about 2005—is the presence of women in the involvement of this process,
664 what Bill was thinking, who he was talking to and everyone else's thoughts.

665 **Walshok:** Well, what is complicated about my generation and to some extent the
666 women who came ten years after me is that women weren't getting into the pipeline
667 where they could develop these valuable competencies you needed to be on the
668 front end of technology and innovation. If you hadn't gone to Stanford Law or
669 Harvard Law or Harvard Business School or if you hadn't gone and gotten a Ph.D. in

670 chemistry or physics–[it was difficult]. There were only handfuls of such women.
671 Many, many, many more men. So there was a pipeline issue.

672 At the same time my experience—I think it’s why I’ve stayed here this whole time and
673 in some ways to my disadvantage financially and—not reputationally, but positionally
674 is that in these very innovative science-based arenas competency is king. So it
675 doesn’t matter if you wear a turban. It doesn’t matter if you wear four earrings and
676 you paint your face. I don’t care if you’re male or female. If you’re smart, if you’re
677 good, you can move fast. If your technology’s good, and you have good networks
678 you’re on the team.

679 So there were women in the 1980s. One of the key partners, I wouldn’t say partners,
680 but key players in the Linkabit success was a woman by the name of Martha Dennis,
681 Ph.D. from MIT. At Hybritech there were actually two significant women one of
682 whom, a Ph.D. scientist, just sold her own company 40 years or 35 years later for—I
683 don’t know— \$40, \$50, \$60 million, even women who were made millionaires in the
684 old days. Nothing compared to the men. So I don’t think there was simply bias
685 against women. There was bias for tenacity—well first of all, competence, the
686 willingness to work around the clock. So that would remove some of the competent
687 people male and female and you need guts and taking risks—which also removes
688 lots of men and women—but in those days maybe even today fewer women have
689 these inclinations. So I think that’s why you saw in the early days so few female
690 faces.

691 **Caruso:** Also I wonder if it was a product of the earlier time period. Women in
692 college getting advanced degrees as well, which was a less frequent occurrence.

693 **Walshok:** Oh yes, that’s what I’m saying. There were so few of us with advanced
694 degrees. Martha and I have the same birthday and we talk about it. There just were
695 no women to speak of. I’m a widow. I have a companion who got his Ph.D. in
696 economics at Harvard in ’69. There were four women in the Harvard class. I mean
697 that was a large number. Really large number who got Ph.Ds. in ’69 in economics.
698 Those four women have gone on to extraordinarily powerful roles in society.

699 Today I think half the economic Ph.Ds. are women. That’s what I mean by the
700 pipeline. They weren’t encouraged. They weren’t welcomed. It’s interesting that
701 Martha’s father was a university professor. My father was very ambitious for me. So

702 you buck the system because you had supports elsewhere and we were all lucky to
703 marry good men which is also a big piece of it.

704 But in the case of getting Bill Otterson to lead CONNECT that was a coup. He was
705 not well-known in this community and in fact he was known [to have left his
706 company before its big success]. He used to give talks about how he was ready to
707 close down Cipher Data Products—that was his company—because they just didn’t
708 have any more financing and they just weren’t getting product to market. He literally
709 was playing tennis in La Jolla with Buzz Woolley, a venture capitalist and talking
710 about this pending crisis. Buzz said, “Oh well I’m doing a little venture capital with
711 a couple of partners,” former General Atomics and SAIC guys, by the way. Buzz had
712 made his money in real estate, not in tech. But they’d created a little venture fund.

713 He said, “We might be interested in your company.” Bill responded, “I’m probably
714 going to have to close it down next week. So we need to talk now.” Buzz replied,
715 “It’s Easter Sunday tomorrow, Bill.” “It can’t wait. It can’t wait.” So Easter Sunday
716 afternoon in Buzz Woolley’s home Bill gets the check he needs to keep the company
717 going and then within a year or two the guys who invested said, “We no longer need
718 you in order to take this company where it needs to go.” There was a lot of that stuff
719 going on. [A few years later, all of us, including Buzz, were convinced Otterson was
720 who we needed to help get a program going. Within a matter of weeks another
721 friend of Buzz entered the picture, Barbara Bry.]

722 At the time she was a stay at home mom with two small children. She had been in
723 the first class of women at Harvard to get an MBA and had been a financial reporter
724 for *The L.A. Times*. So she came out to do financial reporting for *The L.A. Times*.
725 Her mother who had cancer lived in La Jolla. So she ended up here, met a guy, got
726 married, had kids and as smart as a button. The man she married was a wealthy real
727 estate developer, good friend to Buzz Woolley.

728 Buzz called me as soon as we hired Bill and he said, “Bill’s a loose cannon. I want
729 you to meet a young woman who I think can afford to volunteer and help him keep
730 on track.” So within about three weeks of Bill Otterson saying yes, we brought
731 Barbara Bry in. These two people for over a year gave tirelessly of their time. We
732 gave them parking permits. We had just opened the Faculty Club, they had
733 division’s Faculty Club card.

734 Ivor Royston, founder of Hybritech was still on the campus in the medical school
735 and he had a full-time secretary. He offered her to be support in the afternoons for
736 Bill and Barbara. So she'd work at the medical school in the morning and come over
737 here in the afternoon. That's how he contributed to CONNECT. We bootstrapped
738 an organization. In other words, we were an entrepreneurial start-up focused on
739 this mission that for more than a year we had heard loud and clear. You have to
740 help create a technologically literate business community simultaneous with
741 creating more business savvy in the scientific and technological community.
742 Because that's what CONNECT focused on I think it helped accelerate significantly
743 the growth of the clusters that occurred here from about '85 on.

744 It's important for you to know that when we were starting CONNECT, David Hale—
745 who's in that photo on my desk—was flying to Indianapolis to negotiate the sale [of
746 Hybritech] to Lilly. While we were starting CONNECT, Irwin Jacobs had already
747 sold Linkabit. He'd been off campus for almost ten years and was just beginning to
748 incubate the idea of QUALCOMM. He started QUALCOMM in the spring of '85.
749 We started CONNECT in the fall of '84. So the robust clusters that we have today
750 especially in wireless and biotech didn't exist in '84, '85. There was that promise.

751 With my grandson I've planted all these plants to attract butterflies who leave their
752 larvae which become caterpillars which make the cocoons [from which Monarch
753 butterflies emerge. Tech grew here in an analogous manner]; start with 15 or 20
754 caterpillars and then you've got a few cocoons and out of those we'll get a few
755 butterflies. But it starts to grow. There was enough here [in the 1980's in terms of
756 early companies that we could see the promise]. Newspapers did not cover science
757 and technology. Business pages didn't talk about tech companies. That chasm was
758 still there [between the research mesa] and the downtown establishment, except for
759 a few key leaders in the downtown business community. Do you want me to
760 describe some of the early programs of what was quickly branded as CONNECT?

761 **Caruso:** Yes. It will be good to know the programs, their growth, who was
762 getting buy in and what they were getting out of it and also what the University if
763 anything started to get out of being associated with them.

764 **Walshok:** Yes. So it's very important to understand because CONNECT
765 eventually spun out of the University. I think it's very important to understand that
766 Dick Atkinson's primary interest was in building a great research university and he

767 was interested in the community to the extent that it would contribute to that
768 growth. He had co-authored the Bayh-Dole [act and helped move it through
769 Congress]. He started the SBIR and STTR programs when he was the head of NSF.
770 So don't misunderstand me, [he understood commercialization], but what he
771 focused on was that he was the steward of this very, very dynamic, exciting, young
772 research university that had been propelled into the top ranks within 20 years. We
773 got our AAU membership I think the first or second year he was here. I mean
774 phenomenal after 20 years to get into the AAU.

775 So the role that CONNECT played was very pivotal. When we started CONNECT
776 the dean of the medical school, one of our leading researchers [in biology], Don
777 Helenski who was working in the area of bioluminescence; Lea Rudee who was
778 founding dean of the division of engineering—it wasn't yet a school of engineering—
779 were pivotal. We had representation from the department of economics and I can't
780 remember if it was Ted Groves or—I'm sorry, I'm not remembering the exact person,
781 but those three scientists were really pivotal. Then of course, we had Buzz Woolley,
782 we had David Hale and we had the head of the EDC and we had—I'm trying to
783 remember the tech—I can go back and get you those names. We're talking 30 years
784 ago.

785 **Caruso:** Was the head of the EDC still Pegg or...

786 **Walshok:** Yes, it was still Pegg. It was a small group and we would meet
787 monthly. Always talking about programs that would engage the faculty in briefings
788 and round tables to inform the business community as well as programs that would
789 introduce the faculty—to entrepreneurial practices. So in those early days—
790 somebody who wants to do serious history can go into the documents and the
791 newspaper stories—but let me give you two or three highlights that, I think, were
792 really pivotal to catalyzing the sense of excitement that there's something really
793 going on in this region of value and of promise.

794 As Bill joined us, he knew a lot of people in the tech world, not in the downtown
795 world. We started a Meet the Entrepreneur series. It was jammed. It was young
796 people. It was the traditional business community and it was the occasional
797 researcher and scientist. Not a lot of UCSD people.

798 **Caruso:** That's what I was going to ask.

799 **Walshok:** Yeah. No, no. All along and there's going to be a punch line here
800 because there's very good research that a colleague is doing at Keck that describes
801 the extent to which innovation and entrepreneurship in San Diego is driven by
802 entrepreneurs in contrast to the Bay Area where it's much more science driven. He's
803 got some wonderful metrics to make this point. But what was critical is that most of
804 these entrepreneurs were themselves scientists or engineers.

805 So you had somebody like Jerry Caulder who had been with Monsanto and created
806 Mycogen and nobody knew what Mycogen was and suddenly I met Jerry and, oh my
807 god. Irwin [Jacobs], nobody knew who Irwin was, talking about Linkabit and, "Now
808 we're starting another company called QUALCOMM," blah, blah, blah, blah. John
809 Thornton from Continuous Curve, Peter Preuss from ISCO, a computer graphics
810 pioneer who had been a Ph.D. student here. Never finished [his degree], but started
811 a [super] company.

812 We expected 80 people. We would get 200 or 300. Newspaper reporters covering
813 events in the business pages. Now this is because Barbara Bry who worked for *The*
814 *L.A. Times* knew how to engage the newspaper crowd. Bill Otterson was calling all
815 his buddies and always started meetings with wine and food. "Get your business
816 cards out. Exchange your business cards. You all need to know one another. You
817 never know when you're going to want to do a deal together." I mean outrageous
818 and people would do it. People would do it because it was fun. Thank you Bill,
819 because Bill Otterson had gone to Stanford and he sailed with [the likes of] Brook
820 Byers and Tom Peters and he knew everybody in tech here and in the Silicon Valley
821 and he shared with everyone who and what he knew.

822 So we get all these guys down here at no cost. Bill calls them. "You have your own
823 plane. We don't have to pay you. I'll buy you dinner at the beach club." It was that
824 kind of approach. Nolan Bushnell who built the Apple campaign came down and
825 talked about marketing high-tech products. So what happens out of that, David, is
826 terribly important. One is the community gets sophisticated about ideas and
827 processes that are unfamiliar. Two, the community becomes networked across
828 functions and across disciplines that they've never engaged before.

829 When I came to UCSD, there was actually a Faculty Wives Club. There was the
830 Lawyers' Wives Club in town. There was the Hospital Auxiliary. People networked
831 within their fields. They didn't network across fields. What CONNECT did was

832 create that [cross-disciplinary], cross-functional traffic by creating events that had a
833 social dimension that were fun, that were informative and ultimately helped build a
834 community of trust with a shared language and a shared understanding of
835 technology entrepreneurship. So that was number two.

836 Also, a guest speaker would go back to the Silicon Valley or L.A. or New York and
837 say, “God, something’s going on in San Diego.” We did these “Meet the
838 Entrepreneur” events and then we did the “Meet the Researcher” events with some
839 trepidation. “Would anybody come and hear about research?” Again, because there
840 was a burgeoning venture capital community and because so many of these early,
841 early stage companies were science based we chose strategically. Don Helenski
842 working on bioluminescence—his bright green maple leaf had been on the cover of
843 *Time Magazine*— [so he was an early speaker]. Well everybody shows up to hear
844 Don. He’s delighted. We structure it so he’s actually interesting. He’s not giving a
845 seminar. He’s talking about his work to an intelligent audience of professionals. So
846 we did that as a series.

847 Then the third thing we did and remember, I’m just describing to you the first two
848 or three years. We engaged with a lot of the accounting firms and other financial
849 institutions to do capital venture forums. I was in this very office when all of this
850 was happening. We did a venture capital forum. Then we did a Corporate
851 Partnering forum because in the mid and late ‘80s we had companies in town [had
852 significant such as] Hybritech who that corporate and institutional investors. These
853 former Hybritech execs were all starting companies you can see that on the
854 begatting charts [we developed].

855 So David Hale, the former CEO—God’s truth—meets his next company through a
856 CONNECT event. He was doing a seminar on marketing technology products
857 abroad. He took 13 [one-on-one] meetings after the event—this is a true story—and he
858 decided to become the CEO of one of the companies he met with, Gensia. Within
859 months that company had financing from Silicon Valley, a Swedish [health] pension
860 fund called Practicargejerst, and Kiren Beer in Japan. So David convinces us—he’s on
861 our advisory board—that we need to do a corporate venturing firm because of his
862 experience securing institutional investors in very high-risk ventures. He says,
863 “We’ve got to get the Japanese to come.” I hire Japanese speaking graduate students
864 from IRPS and they sit in the little cubicle down the hall [from my offices] with
865 phone numbers and names of contacts in Japan [from David]. [Remember, this is

866 before the Internet and we only have fax and phone] with a little script that David
867 has written following up, “You received a letter from David Hale.” By the way, David
868 doesn’t have a Ph.D. He went to the University of Alabama; first in his family but
869 he’s a real entrepreneur and he worked with Ted Greene and Ivor [Royston] and all
870 the smart guys. Believe it or not, [from those calls] we got half a dozen major
871 Japanese investors to show up for this event.

872 As we say, the rest is history. For these first events everybody in our network opened
873 their Rolodexes [and shared connections]. That’s what I’m trying to [underscore] is
874 what people don’t understand. You don’t just print a brochure. You don’t just invite
875 people to a party. You use your personal relationships and that’s what Bill Otterson
876 and CONNECT were able to do. “Malin Burnham”, for example, Bill would say to
877 Malin, “I know you’re a third generation San Diegan, but your roommate at Stanford
878 is now the head of whatever equity bank in New York City. Call him. Tell him to
879 come out here. Tell him you’ll take him sailing after the forum.” It was that
880 personal in the beginning.

881 **Caruso:** One thing I’m curious about, especially thinking about having all these
882 individuals come together. They aren’t in direct competition with each other, but
883 there’s a lot of potential for competitive practices.

884 **Walshok:** Yes. Right.

885 **Caruso:** I’m wondering if you have a sense of what it was that kept the
886 competitiveness down and kept it more of a collaborative process.

887 **Walshok:** Right. Well, that’s my Stanford book [*laughter*]. The whole book that
888 Abe and I wrote. We had to start with the early history and getting the military here
889 first and then the defense contractors here and then the University and research
890 institutions and then the commercialization clusters. That whole history is about
891 the little town that could. So no legacy industries like Boeing or General Motors that
892 could fund or dominate the economic landscape, no intergenerational wealthy
893 families to speak of. Big wealth is a very new phenomenon here. Wealth, yes, but
894 not wealth like Mellons and Carnegies and Rockefellers and even Haas in Northern
895 California. Coming out of the Gold Rush the Haas family, Levis and others [created
896 great wealth]. So none of that to fall back on. There was also an antagonism to
897 government. Right?

898 So in California compared to New York and other states the level of government
899 largess is way, way down and cities won't tax themselves, nor do counties. All the
900 things you love to hate about California turn out to be very useful if people have to
901 be self-organizing, co-invest and collaborate in order to compete. So there's a long
902 history here of enemies or competitors collaborating because they have been able to
903 see [an opportunity] for which no one of them has enough resources to make
904 anything happen. It's really important.

905 I've done a lot of work in St. Louis, Missouri. The Danforth family alone put \$30
906 million into a bioscience incubator that's empty. Until recently nobody could do
907 that here. So you had to pool talent, resources, and connections in order to get a big
908 win and you had to believe that the big win would benefit all players, which it did.
909 Right? History has borne this out. So I think that is what differentiates us. In other
910 words, what were considered huge liabilities in the '40s, '50s and '60s—no major
911 families, no Fortune 500 companies; we're just a little backwater; you can't do
912 anything great here because you don't have great wealth or great leadership—
913 paradoxically creates a set of community capabilities that are very well-suited to a
914 fast paced, rapidly changing “industries rise, industries fall,” 21st century economy.

915 Trust me, [if] QUALCOMM dies tomorrow, we don't die because we have this
916 capacity that continues—that's why we called the book *Invention and Reinvention*.
917 It's [an attitude and] a set of skills. It's a set of relationships that you're able to
918 activate. I think it's really core to this innovation economy. It happened in the early
919 days in terms of getting the military and then defense contracting, but also because
920 most of the early people who came here, [came with big dreams and important
921 experiences]. I'd love to do this study, David. I can tell you informally that the
922 seven guys or eight guys that started the first industrial affiliates program in the
923 school of engineering had all gone to MIT or Stanford. People brought their culture
924 with them. By which I mean the culture that you can take risks and that you need to
925 have university/industry connections, but all of them were small players if you
926 understand what I'm saying. So they had to work together.

927 **Caruso:** It sounds like almost from the outset there was this structure that
928 wound up being very productive for CONNECT being a purposeful and useful thing
929 for the community that it was serving.

930 **Walshok:** Right.

931 **Caruso:** Part of it sounds like it comes out of lots of individuals' work. You
932 mentioned that Bill was there for 14 years.

933 **Walshok:** Right.

934 **Caruso:** In that 14 year period was there a lot of stability in terms of the types of
935 programs?

936 **Walshok:** So here's what I think is most interesting about UCSD and the
937 community in that 14 year period. Where lots of other places would try to centralize,
938 consolidate and make coherent their innovation strategy—we were chaotic. So
939 CONNECT ended up being the incubator for what in other cities would be its
940 competitors, but we didn't see it that way. So you start to get a really robust life
941 sciences group when we have a water crisis. So the guys in CONNECT that are in
942 that group create a group [which becomes Bio and ultimately Bio-Com].

943 “We have got to go talk to the mayor. We got to go to Sacramento. We got to let
944 people know that we've got these problems around water.” Then they come to
945 realize they are becoming a big enough cluster with their own problems that needs
946 an organization that focuses just on the life sciences. So you get [Bio-Com whose]
947 leader is Joe Panetta who was the vice president of marketing for Mycogen, Jerry
948 Caulder's company. Jerry's on the board of CONNECT. So you get BIO.

949 Then you get what today is [EvoNexus, which originally was AEA] and then a
950 software industry council. Then you get the Venture Group. “We're not getting
951 enough venture capital, venture capital is really important to our growth. We
952 should start our own association.” So when CONNECT started there was no critical
953 mass anywhere. Five years later all these other organizations get launched because
954 new clusters are [flourishing]. Does that make sense?

955 **Caruso:** Yes.

956 **Walshok:** In the early 1980's there were just flashes of opportunity, pieces of a
957 puzzle, and competencies distributed all over the place. As the momentum began to
958 build and you started to get the critical mass of companies. It's really an important
959 part of this history that as long as Dick Atkinson was Chancellor at UCSD,
960 CONNECT was a community-wide, Torrey Pines Mesa-wide resource. So we were

961 capitalizing on relationships at Salk, TSRI, what is now Sanford Burnham. Do you
962 understand?

963 So it was really about a regional innovation play. So UCSD can't take all the credit.
964 In fact UCSD was only one among the institutions here, only about 10 percent of the
965 patents in the region are coming from us, less than 10 percent of patents, and a
966 handful of companies. We have the data. Again, you don't need it for the oral
967 history, but it is there. We do an innovation report and over the last ten years every
968 day a new technology company gets started. That's 365 a year. We also have data
969 that companies that work with Bio and CONNECT and others have a longer lifespan.
970 UCSD gets excited if it spins out 13 or 14 companies a year. Do you understand? So
971 what's happening and what data now shows us is that companies spin out of
972 companies more than out of universities or research labs. So getting that critical
973 mass of companies, that was the magic to growing the technology economy.

974 I just published a chapter in another Stanford book about the wireless industry and
975 Irwin Jacobs. There are only a few patents or licenses [from UCSD] to Linkabit or
976 QUALCOMM. It's a handful even though those became huge anchor companies.
977 Today, there's something like 3,000 IT and wireless companies in that space. UCSD
978 claims that nine or ten of its alums spun out companies. No. Nine or ten of its
979 alums went to work for Linkabit and then they spun out companies from Linkabit.
980 But guess what? That's what's happening in Berkeley and the Stanford area, too. So
981 it's not so much the direct spinouts. It's helping to create that core platform of
982 companies which is what Hybritech and Ivor Royston did, which is what Irwin did.

983 In our book we point out that and fortunately times have changed, both Irwin and
984 Ivor, the men credited with creating these anchor [campuses] for two of our most
985 globally competitive clusters were rebuffed by faculty colleagues. We have a letter
986 from the chair of the [electrical engineering] department about, "Well Dr. Jacobs is
987 much more interested in his business affairs than our students or research. I
988 seriously doubt he will ever return to the campus." Of course, he did not. Fourteen
989 years later, he started QUALCOMM and all UCSD chancellors still claim
990 QUALCOMM as a UCSD spinout. Go figure.

991 Ivor Royston, whose technology was at the heart of Hybritech, made the mistake of
992 buying a very fast, fancy car. I think it might have even been a Maserati which in the
993 '80s was much worse than today before conspicuous consumption became

994 acceptable. He's a ladder-ranked faculty member and the Dean of the Medical
995 School calls him in and says, "Ivor I think we should actually make your
996 appointment a clinical appointment." You understand what that means, right?
997 "Because you've got so many business interests." Ivor left. So the University did not
998 celebrate these guys in the '80s. This was not what you wanted to do to be a hero.
999 In fact, you were distanced. Both of these men [were not UCSD heroes], but the
1000 University got them here in the first place, [as young professors]. That's what's
1001 important.

1002 They helped grow this ecosystem that created enough of a critical mass that now
1003 things spin out, new companies get started. Sometimes it's UC technology,
1004 sometimes it's Salk. But it's a very, very interesting dynamic.

1005 So in that first five to ten year period that's what was happening. There weren't a lot
1006 of homeruns [they built over time]. Look at Biogen Idec. I don't know if you know
1007 that company. Or look at Life Technologies which sold to ThermoFusion for \$13
1008 billion. Idec was invested in by Genentech and then Roche. Then it was acquired by
1009 Biogen. It's one of the biggest global bio medical companies, now headquartered in
1010 Boston. But all of that came out of [the principals around] Hybritech.

1011 QUALCOMM then of course seeded [multiple companies]. But then you also have—
1012 we can't walk away from all these defense contracting companies that are more and
1013 more based on advanced technology. So General Atomics (out of which SAIC and
1014 Titan spun) is the designer, manufacturer of predators, the first unmanned aerial
1015 vehicles. You see? So all of this stuff is starting to coalesce in the late '80s and early
1016 '90s so that by the early '90s *Fortune Magazine* and others are starting to write about
1017 what's going on in San Diego. But I think that critical period there from about '80 to
1018 '90 overlaps McElroy a little, brings Atkinson in, parallels the success of IVAC, IMED
1019 and then Hybritech, all sold to Lilly. Then the Linkabit/QUALCOMM story are very
1020 important. So CONNECT is leveraging these early successes, making them public,
1021 celebrating them and networking people around them so that people who were
1022 perfect strangers in the '80s, are today's iconic civic leaders.

1023 Now the story that I'm not telling you enough of David is that UCSD is only \$1 billion
1024 of the \$2 billion [plus] in research that's going on here. So the story of Salk and its
1025 contributions to spinouts and technology commercialization, of TSRI and its big
1026 partnerships with Sanofi and Johnson and Johnson, of Sanford Burnham in my

1027 opinion are equally significant in terms of the science piece of it. But what's
1028 important about the technology piece is that the science translated and
1029 commercialized because you have a coherent community that was originally
1030 established by CONNECT but, CONNECT in no way has a monopoly on it.

1031 **Caruso:** So based on what you were saying one of the questions that I had was
1032 throughout this process what is it that UCSD was getting out of this? It's almost
1033 kind of like the café value in the long run.

1034 **Walshok:** Right. You have to go back because chancellors matter. What Dick
1035 Atkinson and his team [understood were] two or three things that have now proven
1036 to be invaluable. One is [early] connections to industry leaders turns then into
1037 research partners and investors in major initiatives. Calitz couldn't have happened
1038 without QUALCOMM and Erickson and the network of companies that matched
1039 [public funding]. I don't know if you know about these, centers of excellence that
1040 were created in the late '90s here in California, but the state put up \$100 million if [a
1041 campus] could raise \$200 matching money and we did.

1042 There were periods when animal rights activists were on the brink of closing down
1043 medical school laboratories and the CONNECT community mobilized to buy ads
1044 showing children with polio and other things as a counter. All right? There were
1045 periods—this was all during the Atkinson time—when the state legislature—UC San
1046 Diego is always number three when it comes to support from the regents, from the
1047 legislature. Right? It's Berkeley and UCLA. Delegations of CONNECT member
1048 companies would walk the halls in Sacramento advocating for research buildings,
1049 advocating for things we needed at UCSD.

1050 So in the short run I think what Atkinson and his leadership team saw is our future,
1051 because so much depended on state funding and federal and state regulatory issues,
1052 our future research agenda was enhanced by the advocacy of business and industry.
1053 So wherever possible we could serve them. So CONNECT, was almost like a support
1054 group for the research enterprise but eventually as many of these companies became
1055 successful—I'm not sure of the number again; a historian would have to check them—
1056 but we didn't have any endowed chairs at UCSD when Dick Atkinson came. I think
1057 we had 100 when he left, probably half of them from CONNECT-aided companies.
1058 Do you see?

1059 Having been at Stanford—and also we didn’t have a technology transfer office when
1060 we started CONNECT. It was still managed by Berkeley. At Stanford they knew in
1061 the ‘80s which we’re only figuring out in the UC system 30 years later that a gift from
1062 a grateful alum is going to be of much more value than the earnings on patents. We
1063 had our priorities straight and history has borne out that it turned out this way. I’m
1064 sorry. I’m tripping out and maybe we lost track of where your question wanted me
1065 to go.

1066 **Caruso:** No, it was just getting a sense of—because you talked about McElroy
1067 and wanting to dip the toe in the water. So the question of, “What was UCSD
1068 getting out of its involvement or support of this?”

1069 **Walshok:** Right. So Atkinson was pivotal. The chancellor who followed
1070 Atkinson created a different kind of environment and he had been vice chancellor
1071 for a couple of years which meant I reported to him. This is Bob Dynes who’s a
1072 friend and a man I respect, but with regard to CONNECT—he’d come out of Bell
1073 Labs. Big science, big labs. Came to UCSD to be chair of the department of physics,
1074 then vice chancellor then chancellor. So his first question was, “What’s CONNECT
1075 doing for UCSD?” That was the first time in something like 15, 16 years of working
1076 with these guys I got, “It should be helping us. It should be helping us spinout
1077 companies. It should be helping us solve our tech transfer needs.”

1078 So we brought in a director that was not hired, if you will, by the community or me,
1079 but by the campus and within four years we were almost bankrupt because the
1080 raison d’être which would make the community reinvest and reinvest which is, “I
1081 don’t care where the scientist comes from. I don’t care what it’s about. It’s good for
1082 the community.” We [got lost and it almost became] a UCSD instrument. Somehow
1083 we had managed for 15 years to be the honest broker [is suddenly here to promote
1084 UCSD].

1085 So I saw the writing on the wall. I called David Hale and a few of these guys. We
1086 met in my conference room and I said, “We’re going to have to close this puppy
1087 down in another six months if we don’t make a radical change.” So we did two
1088 things which I was able to get the campus to support. One is we dismissed the
1089 director we had and two, is we put the search not in a Heidrick and Struggles
1090 education search firm. That’s who the chancellor chose, some big headhunting firm
1091 to get us a new director when Bill died. This time we put it back in the hands of the

1092 community stakeholders and out of that process Duane Roth emerged who is the
1093 second hero in this story. For eight years he rebuilt CONNECT, tripled its size and
1094 its impact. He also died last summer. So we have a new director. But within
1095 months of taking it over he proposed spinning it out of the university because he felt
1096 [CONNECT] could no longer have the credibility with all the research institutions
1097 and all the stakeholders [in the region] by being anchored in the University.

1098 It's important to understand UCSD. (This problem with being at a place for 44 years,
1099 that's how long I've been here. Terrible.) In the early days we were very nimble.
1100 The guys that were full of piss and vinegar always could figure out ways to get
1101 around the rules. As we got larger and more bureaucratic and now we have deans of
1102 schools of engineering. We have a new school of business and—we start to look like
1103 other universities. We get real slow, lots of turf battles. "I own this. I own that."
1104 One couldn't start CONNECT today. Trust me, the dean of engineering, the dean of
1105 the medical school and the dean of the business school would be fighting about it.
1106 It's very, very hard to create these kinds of nimble, collaborative, and cross-
1107 functional interdisciplinary activities and I think it happened because there was a
1108 void.

1109 Today, CONNECT is thriving as is BIOCUM, and EvoNexus. I just gave a talk with
1110 friends to about 40—well actually it was 105 but about 40 of them were college and
1111 university presidents who were here for a meeting. They were just shocked when we
1112 said, "Oh we have about 23 organizations that are advocates for helping technology
1113 companies and we have about 40 incubators." They're going, "Oh my god, oh my
1114 god, that's chaotic." We replied, "No, no, no, no. That's how you start one company
1115 a day." Because you look at ten companies and only one merits start up. Then out of
1116 that you're lucky if 10 percent succeed. We're getting a 40 percent success rate after
1117 5 years in this town. So there must be something about these dynamics if that
1118 makes sense.

1119 I had an NSF grant to look at Philadelphia, for example, and look at St. Louis and
1120 you just haven't had the same kind of coherent sense of community. There's lots of
1121 this sense of competition. But I think it has to do with two fundamental things. The
1122 geographic dispersion in the Philadelphia and New Jersey area is just—it works
1123 against my bumping into you five times a week. That's not trivial.

1124 **Caruso:** Right. Given the number of universities in the Philadelphia area...

1125 **Walshok:** Right. And given the number pre-established university, government
1126 funded and foundation funded and old family money funded initiatives everybody
1127 thinks they've got the formula for innovation and they all work in parallel. Again,
1128 we didn't have that luxury here.

1129 **Caruso:** Yes. So I know we're pretty much out of time. The way I usually end
1130 things is I ask individuals if there's something that they want to talk about that we
1131 haven't covered.

1132 **Walshok:** Yes, I think because we're trying in this archive to capture the essence
1133 of the technology dynamic in this region I think that there was another pivotal
1134 moment in our history. Maybe it's not a pivotal moment. Maybe we're in a pivotal
1135 moment in our history. That is that even in the '80s when we started this the goal
1136 was big companies. Right? All we need are a few more QUALCOMMs and then
1137 we'd be stable.

1138 Now I've, for complicated reasons, never had that orientation but that's partly
1139 because I have this larger historical view. I think what has happened is there have
1140 been so many acquisitions and mergers that have scooped up what looks like—a \$4
1141 billion company, Life Technologies that gets sold for \$13.8 billion and everybody
1142 goes, “Mea culpa. It's not going to become a QUALCOMM.” But what our history is
1143 beginning to show is that the 20 people who became multi-millionaires because of
1144 that acquisition or sale or merger love living here because of our quality of life, but
1145 they also want to still be in the swim of all things [entrepreneurial]. So these guys
1146 turn around and just start the next wave of companies.

1147 So the phenomenon of serial entrepreneurs and the notion that you can have an
1148 economy that is based on starting, incubating, growing and letting go of companies
1149 and starting the next round of incubating, growing and letting go of companies, I
1150 think is starting to take hold here because there's so much in the Hybritech to
1151 Biogen Idec to Life Technologies story that suggests that. So I think that if you were
1152 to characterize the innovation economy today, there is this sense that it's the critical
1153 mass. Aren't we lucky? Six hundred companies here, 3,000 here, 250 there and
1154 they're all churning and being reinvented. Some go out of business. Some get
1155 acquired. But that's okay because we've got 30 more in the pipeline. That's number
1156 one.

1157 But the second thing and I think it's happening around the United States, but it's
1158 what you have to thank, again, Dick Atkinson a lot for this. The fact that we here-
1159 well actually we've got to thank the military, if you really want to go back. Here we
1160 were growing both tech, IT and electronics and now mobile and wireless and all that
1161 stuff and life sciences, renewable energy, pharmaceuticals, ag biotech, materials
1162 science on the tech side. We have an extraordinarily diverse array of clusters in the
1163 Michael Porter sense: sports innovators, renewable energy, software,
1164 pharmaceuticals, medical devices, wireless health. We're getting convergence across
1165 disciplines.

1166 So the region in terms of its technology future is very, very well positioned to adapt
1167 to the convergences in technology and to turn them into productive companies that
1168 will be good for the region [such as wireless health]. None of this was planned.
1169 There was no governor that decided or mayor that decided or regional foundation
1170 that decided. It was imagined. I think that dynamic innovative regions are more
1171 about imagination than about planning. If you were to look at the Silicon Valley and
1172 even Boston, [it is similar]. So people that try to replicate and I do not do much
1173 consulting because I can't consult, but speaking around the world and I say, "This is
1174 not a management by objectives exercise. This is about releasing imagination,
1175 attracting talent, growing talent and trusting them to build value-added enterprises."
1176 I think that is the dynamic of the technology community here.

1177 **Caruso:** Anything else? All right. Thank you very much.

END OF INTERVIEW

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The San Diego Technology Archive (SDTA), UC San Diego Library, La Jolla, CA.



The San Diego Technology Archive (SDTA), an initiative of the UC San Diego Library, documents the history, formation, and evolution of the companies that formed the San Diego region's high-tech cluster, beginning in 1965. The SDTA captures the vision, strategic thinking, and recollections of key technology and business founders, entrepreneurs, academics, venture capitalists, early employees, and service providers, many of whom figured prominently in the development of San Diego's dynamic technology cluster. As these individuals articulate and comment on their contributions, innovations, and entrepreneurial trajectories, a rich living history emerges about the extraordinarily synergistic academic and commercial collaborations that distinguish the San Diego technology community.