Kenneth Cohen

Interview conducted by

Matthew Shindell, Historian, UCSD

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SAN DIEGO TECHNOLOGY ARCHIVE

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Kenneth Cohen

Mr. Kenneth M. Cohen, Ken serves as Senior Business Advisor at Pier Pharmaceuticals, Inc. Mr. Cohen serves as an independent advisor to companies, entrepreneurs and investors in the Life Sciences industry. Mr. Cohen Co-founded Somaxon Pharmaceuticals, Inc. and served as its President and Chief Executive Officer from August 2003 to December 31, 2007. He serves as Consultant at Adamis Pharmaceuticals Corp. Mr. Cohen served as the President and Chief Executive Officer of Synbiotics Corporation. He served as Executive Vice President and Chief Operating Officer of Canji Incorporated until February 1996. He served as Vice President of Business Affairs of Argus Pharmaceuticals, Inc. He served as Vice President of Marketing and Business Development of LifeCell Corporation. Mr. Cohen began his career at Eli Lilly and Company, where, among many different responsibilities over 10 years, where he directed business planning for the Medical Instrument Systems Division (now known as Guidant Corporation) and managed the launch of Prozac. He serves as the Chairman of Pier Pharmaceuticals, Inc. He has been a Director of Adamis Pharmaceuticals Corp. since January 13, 2011. He served as an Executive Director of Somaxon Pharmaceuticals, Inc. from August 2003 to June 11, 2008. In 1999, in recognition of his contributions to French-American business, the President of the Republic of France named him a Chevalier of the National Order of Merit. Mr. Cohen received an A.B. in Biology and Chemistry from Dartmouth College and an M.B.A. from the Wharton School of The University of Pennsylvania.

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SAN DIEGO TECHNOLOGY HISTORY PROJECT

INTERVIEWEE: Kenneth Cohen

INTERVIEWER: Matthew Shindell, Historian, UCSD

DATE: August 5, 2008

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SHINDELL: Today is August 5, 2008. This is an interview with Ken Cohen, interviewed by Matthew Shindell. So, Ken, if you would go back as far as you'd like. You can tell us how you sort of got interested, or how you eventually came to biotech. If you want to start with your childhood, or your time in school, or whatever is important to you in this story, you know, you're welcome to start wherever you like.

COHEN: I've always had a love of and an interest in science, all through school, so when I went off to college, while I didn't know professionally what I was going to do with my life I chose to study science. So, I went to Dartmouth, studied biology and chemistry, a lot of other things. It's a liberal arts school. But, it was about halfway through college when it was really the influence of a professor. I had a chemistry professor who, when I told him that I was uncertain about a career in chemistry but was thinking more about something in business or law he encouraged me to stick with my science, and then eventually go to business school or law school. (Shindell: Uhm-hmm.) Because ultimately, with the role of technology and science, in everything from business and money to public policy, his advice was, "If you can have a foot in both camps, if you can understand all that nonscience but still relate to scientists, and vice versa, then that's going to open up a lot of opportunity for you." So, I took that advice and after college I went to business school for my MBA. And then, based on recruiting and some other aspects of familiarity with a particular company, I accepted a job

offer from Eli Lilly, the big (Shindell: Uhm-hmm.) Indiana based pharmaceutical company. And, I was at Eli Lilly for about ten years. I don't know how much I or anybody else in Indiana at that time really knew about biotechnology, (Shindell: Uhm-hmm.) other than the scientists who were really on top of things. But most of us, I certainly, was more in the mainstream of the traditional pharmaceutical business on the sales, and marketing, and product development, and planning side of things.

SHINDELL: Uhm-hmm. Can I ask you a question before you (Cohen: Sure.) go on? When you were at Dartmouth, you say you started at Dartmouth in 1972?

COHEN: Yeah.

SHINDELL: And then the Wharton School in '76? How common was your story, someone with a background in science in business, going on to business school? Was that common in the pharmaceutical industry?

COHEN: No, it was pretty rare actually. I remember when I got to Wharton my class was about probably 600 people. Most people work at a job, maybe at a bank or someplace like that, in between college and business school. (Shindell: Uhm-hmm.) A small handful of us had come straight through without work in between. And interestingly, of the ten percent or so of my class at Wharton, who had not worked after college before business school, almost all of us came from science or engineering (Shindell: Uhm-hmm.) undergraduate. So, I think they had a view toward balancing out a class, but most people in business school found it quite unusual when I said I was going for an MBA following an undergraduate in biology and chemistry. (Shindell: Uhm-hmm.) I don't know if it's any more common. I know that all, of all the thousands of people I've met over the years in the pharmaceutical and biotech industry I think it's a lot more common for people to come from a science background (Shindell: Uhm-hmm.) and learn the business background later. There are some people who actually, in some

organized way, have studied both. (Shindell: Uhm-hmm.) And then, there's a lot of people who just fall into a business career from any and all kinds of backgrounds and pick up some of the science along the way. (Shindell: Uhm-hmm.) I think it's another reminder, unless you're going for something highly specialized I'm not sure it really matters what we study in school. It matters that we [Laugh] go to school and learn how to read, and think, and (Shindell: Uhm-hmm.) do research.

I was at Eli Lilly from 1978 until 1988. There were a couple of things that happened along the way that began to remind us that there was this incredibly exciting field called biotechnology that was likely to change the pharmaceutical industry, and there are a couple of things along the way. Of course, the first generation of great biotech companies started up in the 1970s. Being very young and not in California I didn't really know much about all of that, and even during my years at Lilly, for a while you didn't think much about it. But then, a couple of things happened. In 1980, Genentech went public and you had to be totally unaware of what was going on in the business world not to have noticed that. It was an incredibly high-profile thing. And then something that struck closer to home, in 1986 Eli Lilly acquired San Diego based Hybritech. (Shindell: Uhm-hmm.) The acquisition of Hybritech by Eli Lilly, as I'm sure you've learned from a lot of the people you've talked to, had tremendous domino effects and implications here in San Diego, (Shindell: Uhm-hmm.) but it also affected a number of us in Indianapolis, Indiana. I looked at that and thought, "This is terribly exciting. The technology is nothing short of spectacular. These people are starting and building these young companies. They're going to cure cancer. They're going to get rich. All kinds of fantastic things are going to happen. Maybe I should be looking to something like that for my future?" That was 1986. So, I began to spend some time learning about the field. I started to make phone calls. I started to meet people. Just started to open my eyes to the possibilities that

maybe there was another world outside a traditional major pharmaceutical company. And then . . .

SHINDELL: Did you feel like a lot of people at Eli Lilly were coming to that same conclusion? Or . . .

COHEN: No. Very few. In the 1986 to 1988 era hardly anyone at the upper-middle levels of management at Eli Lilly had ever left that company. (Shindell: Uhm-hmm.) It was rare. There were some people who'd done it. I remember someone in about 1985-86, I remember a couple of people left, one to Boston and one to San Francisco (Shindell: Uhm-hmm.) to go to biotech companies, and they kind of disappeared for a while. Very few people did it. But I was thinking about it, and I didn't know if I would ever do it. But, as I was thinking about it, I was learning about it. When I wasn't thinking about it one day I got a call from a headhunter talking to me about a company in Houston, Texas. The company was called Life Cell and they had a technology built around freezing and drying that had to do with a field that we now refer to as "tissue engineering." Can you take biological materials and use it as the basis to grow new tissue, new medical devices? And, I'll say something that I suspect most people who have made this leap will say. (Shindell: Uhm-hmm.) Had I fully appreciated how far from commercial reality this technology actually was and had I fully understood how much of our jobs were going to be about raising money [Laugh] to finance this dream rather than simply trying to develop products and build a business I don't know that I ever would have done it. (Shindell: Uhm-hmm.) It's like a lot of things. At the moment I'm getting ready to remodel my house, and if you actually think about the whole project and how hard it is, and how expensive it is, and how many things are going to go wrong, you'd never do it. So, instead you back off a little bit, you paint yourself a rosier picture of how great it's going to be, but you also – I mean this is part of how I manage anything – you break it down into small digestible pieces (Shindell: Uhm-hmm.) so that while the whole job may be unimaginably complex one

97 step at a time doesn't look so bad. So, I got this call from a headhunter and I checked out this
98 thing in Houston, Texas, and I can't say I ever fully understood it. I can't even say that I was
99 certain it was the right company, because I wasn't sure about the technology and everything
100 else, but it was an exciting opportunity. I felt good about the people and it was the right time
101 in my life. (Shindell: Uhm-hmm.) So, we took a chance. And, not long after I got there I
102 developed significant doubts as to whether this technology was really ready to be in a
103 company and whether we were ever going to get there. (Shindell: Uhm-hmm.) As is the case
104 with so many of these things, if you look at where the technology was working, there wasn't
105 much of a market yet. And, if you looked at the markets where people wanted to use the
106 technology, it was too far off. And, we worked at it. We made some progress. We made a few
107 deals, but we were still so far away from what we had hoped it was going to be. (Shindell:
108 Uhm-hmm.) I thought, "This company is going to need a major restructuring and a
109 refocusing," and I didn't leave a big company and join my first startup to have to lay people off
110 and restructure. I wanted to build something. So, I chose to leave after about a year and a
111 half, (Shindell: Uhm-hmm.) and move on to another company. Now, I'll tell you a very
112 interesting postscript, which teaches us all something about the uncertainty, and the time, and
113 the risk, and the cost of biotech.

114 Life Cell, which clearly was not working, where I left after a year and a half, just a few months
115 ago, here in 2008, based on a product that derived from something related to what we were
116 doing way back in 1988, Life Cell was just acquired for almost $2 billion. [Laugh] I'd like to
117 say I had that vision and I hung on all these years, but no I didn't. (Shindell: Uhm-hmm.) It
118 took the company more than twenty years to get there. Many ups and downs along the way.
119 Multiple generations of investors completely wiped out so the new money could come in and
120 reset the terms. And, and that's the way it often goes. (Shindell: Uhm-hmm.) There aren't
121 many rapid successes, and the successes that we do see take a long, long time, and cost a lot of

122 money, and there are many episodes of failure along the way to, to that success. So, I joined
123 another company called Argus Pharmaceuticals, which in terms of technology it was doing
124 some interesting things in cancer and infectious disease and drug delivery. In terms of the
125 business structure it was rather unusual. The University of Texas system, which operates the
126 well-known MD Anderson Cancer Center, had chosen to license technology to a new venture
127 and keep an equity interest in the company. That was a very unusual relationship, (Shindell:
128 Uhm-hmm.) the University of Texas actually put somebody on the company's Board of
129 Directors and we had a very broad and interesting and worthwhile relationship with both MD
130 Anderson and the university system. That company moved a couple of products into clinical
131 development. We partnered with one of the larger biotech companies. And eventually,
132 recognizing that we still weren't big enough to go it alone, we merged the company with two
133 other smaller biotechnology companies, with the hope that we could gain more bulk so we
134 could do product development and finance it all. And, that happened in 1995. And, it was
135 about the time that we were merging Argus that I again, approached through a headhunter,
136 was offered a position in San Diego. Now, I knew a lot about San Diego because I knew people
137 that had been with Hybritech. I knew that it was a major biotech center. I knew that it was a
138 beautiful and wonderful place to live. And, it just made a lot of sense. The company was Canji,
139 which had a very exciting technology and a strong intellectual property position around using
140 tumor-suppressor genes as gene therapy in cancer. Once again, a technology that, in
141 retrospect, was farther from commercial application than we all hoped it would be, but we did
142 have something we believed could be put into humans within a year or so, and things were
143 moving reasonably well according to plan when our strategic partners at Schering-Plough
144 decided that they liked this technology so much that they'd rather not be a minority partner.
145 They'd rather own and control the entire thing. So, considerably earlier than what anyone
146 had ever expected we had a very successful business outcome for the company when

147 Schering-Plough bought all of Canji in 1996. As is usually the case, the bright scientists all got
148 significant incentives to stay with Schering-Plough and those of us on the business side of the
149 company left. And, at that time I decided to do something really quite different, which
150 reminds us that biotechnology is one word but it means a lot of different things.
151 Biotechnology isn't really an industry so much as it is a family (Shindell: Uhm-hmm.) of
152 technologies in a certain field of science. Biotechnology is applicable to pharmaceuticals, to
153 diagnostics, to agriculture, to medical devices. It goes a lot of different directions. I joined a
154 company called Synbiotics, which had started as a pure technology venture in monoclonal
155 antibodies. It ended up a specialty product developer and marketer in the veterinary
156 industry, primarily with diagnostic tests for animals. And, unlike most biotechs, which are
157 entirely research driven and spend most of their life in the development stage, Cymbiotics
158 was a fully-integrated commercially-operating company. We did research, product
159 development, manufacturing, and sales and marketing. So, while it was a small company it
160 was a pretty interesting, and exciting, and complex company, and a great challenge. It also
161 gave me my first chance to do this in the CEO role. (Shindell: Uhm-hmm.) I had previously
162 been a chief operating officer, or VP of some sort, and we grew the company significantly. We
163 did a lot of international expansion through acquisitions, a lot of domestic expansion through
164 acquisitions, but we, largely based on the distribution structure of that industry, really hit a
165 ceiling that (Shindell: Uhm-hmm.) limited our growth. So, we reached a point where
166 strategically we decided that taking the risks and investing for aggressive growth began to
167 take the backseat to getting the company to run more efficiently to generate more profit and
168 cash flow. So, once it went from a growth company to a small niche no bigger, cash-flow
169 company, that was a logical time for, for me to move on and do something else. I spent a
170 couple of years consulting, looking around, talking to people, networking, which is always a
171 lot of fun. Let me mention an aside. I believe, based on the people I've known, very few

172 people wake up one day and say, "Ah hah, I have an idea. I'm going to start a company."
173 (Shindell: Uhm-hmm.) I think there are a lot more people like myself, who have a range of
174 interests, like to do a lot of different things, and one particular project based on circumstances
175 begins to generate a certain amount of momentum. I think it's more likely to end up as an
176 accidental entrepreneur or CEO than it is to, to set out prospectively to create something like
177 this. But, by this time I had developed a very strong interest in something that we tend to
178 lump in with biotechnology, but it isn't truly a biotechnology business, and that's the specialty
179 pharmaceutical field. Businesses that look to trying to deemphasize early-stage research and
180 instead emphasize later-stage product development and commercialization, but also look
181 toward areas where a small company really has a chance of getting a product to market and
182 even marketing it on it's own. I think in San Diego, Dura Pharmaceuticals, a great success of
183 the 1990s, comes to mind. It's a company that would acquire products or ideas from very
184 large companies. They were too small for the big companies, but pretty big for a small
185 company. And, they built a good business out of that. And, a number of other people have
186 gone this road. I developed a strong interest in that field because I love science but I also love
187 the sales and marketing. So, in 2003, again brainstorming with a few friends, looking at
188 various ideas, we came across a physician in New York City, not a researcher but a regular
189 clinical practice, real-world doctor, who had rather accidentally stumbled across an idea, and
190 based on the encouragement from an acquaintance of his filed a couple of patents and we,
191 through our network, got an introduction to this physician, spent some time getting to know
192 each other, and ultimately that resulted in a business plan and a business deal, and the
193 creation of Somaxon Pharmaceuticals. Somaxon went into business to take a very old
194 marketed drug that's used for depression but repurpose that drug through a different dosage,
195 a different product form, and a different usage, essentially make an old drug new. The old
196 usage of the drug was depression. The new usage was insomnia. We formed Somaxon in

197 2003. By end of 2004 we had favorable Phase II data. By the end of 2005 we had taken the
198 company public. In 2006 and 2007 we delivered four successful Phase III trials. I left that
199 company at the end of 2007 as it began to move into a different phase of its life, but their
200 product, which is an insomnia drug based on this older drug, is now pending at the FDA. So, if
201 all goes well, (Shindell: Uhm-hmm.) we could see a commercial product in 2009. It's a very
202 interesting debate. There are some people that will say, "Repurposing an old drug is not very
203 innovative. What's innovative is recombining DNA, (Shindell: Uhm-hmm.) and inventing a
204 new protein, or a new molecule of some sort, and having a research platform, and doing
205 something completely new." And, I disagree completely. Innovation is about solving
206 problems with an approach that works significantly better or more cost effectively, or some
207 other way has advantages over what was done before. If you can find a forty-five-year-old
208 drug that is already known to be safe in people, but by somehow doing something to it,
209 adapting it to solve a huge problem that is still a medical need that for many people is not met,
210 anytime you solve a problem that benefits patients and offers the potential to do more good
211 than harm, or do a lot of good and do it less expensively or with less risk, you're innovating.
212 (Shindell: Uhm-hmm.) I don't think repurposing an old drug for a new use is any less
213 spectacular in innovation than recombining DNA, which if you don't mind a digression,
214 reminds me of another experience that shaped my interest in biotechnology.

215 During my career at Eli Lilly, in 1983, I was a district sales manager for the launch of a new
216 drug. The new drug was recombinant human insulin, (Shindell: Uhm-hmm.) developed by
217 Genentech in collaboration with Eli Lilly. Up until 1983, all insulin used in diabetics was
218 sourced from animals, primarily cattle or swine. We had human insulin that was identical to
219 the human insulin that your body makes, (Shindell: Uhm-hmm.) but it was done with
220 recombinant DNA and manufactured in bacteria. So technologically it's miraculous. Yet, when
221 we took recombinant human insulin to market the doctors were not that terribly excited

about it. (Shindell: Uhm-hmm.) What the doctors asked for, which we really did not have, is, is there any evidence that this insulin is any better than (Shindell: Uhm-hmm.) traditional animal insulin and is it going to be more expensive? And, of course, at the time it was launched it was more expensive. (Shindell: Uhm-hmm.) It was the long-term supply issue that ultimately made human insulin preferable to animal (Shindell: Hmm.) insulin. Over the years, recombinant human insulin became much cheaper than insulin from pigs. But, the doctors weren't swept away by the technology because, clinically, in patients, at the time the product came to market, there really was no evidence that it would do anything that you couldn't already accomplish with the older product. (Shindell: Hmm.) So, it's important that, biotechnology is often accompanied by tremendous arrogance that this is the best way to do everything. [Laugh] Maybe it is. Maybe it isn't. It depends on the application. So, that kind of brings us to the present day.

SHINDELL: Yes. So, if you don't mind I will ask you some more sort of targeted questions (Cohen: Sure.) now that we have the sort of story of how you got to this point. Let's see. So, let me ask you about sort of your string of experiences here. You started at a large pharmaceutical company and moved then to the biotech industry from sort of company to company. I wonder if you noticed a difference in say the, the culture of these companies, the big pharmaceutical company, maybe, versus the small biotech, if there was a noticeable difference that you noticed when you got there?

COHEN: Yeah, the cultural difference is impossible not to notice. (Shindell: Uhm-hmm.) Now, before I generalize I should say that every individual biotech company is likely to have a unique culture, but there are certain generalities that I've certainly found to be true in between an extremely large resource-rich company and a hungry startup. (Shindell: Uhm-hmm.) The, the large company has a certain comfort. It's been in business for a hundred years. It fully expects to be in business another hundred years. (Shindell: Uhm-hmm.) No

matter what you do all day, or even if you don't do anything all day, the company still has armies of people making product, selling product, collecting money from customers. There's a certain sense that it's a machine that's running and it will always run. (Shindell: Uhm-hmm.) And, if you choose to take a two or three week vacation, sure you'll have a lot of work on your desk when you get back but it never occurs to you that the company might cease to operate. [Laugh] It never occurs to you that the company might actually run out of resources. You go to a small company and the first thing that hits you is, "Wow, there's no depth on the bench. It's just a handful of us. If I don't show up for work and do A and B it doesn't get done and it matters that it doesn't get done." (Shindell: Uhm-hmm.) So, I think there's a focus and a sense of urgency, and a sense of making a difference that's much, much harder to feel in a large company. There's a, to varying degrees there's a certain fear in a small company. You can cease to exist. A few wrong moves, a few bad turns in the environment and it might not be there anymore. (Shindell: Uhm-hmm.) It takes vast amounts of financing to run these companies and there will be times when you need the money and the markets just aren't prepared to (Shindell: Uhm-hmm.) to invest it. And, large companies go through periods where they tighten their belts, but not because they're really going to run out of cash, but because they have an earnings target, (Shindell: Uhm-hmm.) or they just want to adjust a trend. But, the sense of urgency and the sense that I personally am doing something that really makes the difference, the other thing that hits you is you look around you and the people are just really young. (Shindell: Uhm-hmm.) When you work for a Fortune 100 company generally the people running it, when you're early in your career, the people running it are usually fifteen or twenty years older than you. (Shindell: Uhm-hmm.) There aren't many people that get to be CEO of a large pharmaceutical company before age fifty-something. Whereas, you go to these little companies and "Hey, it's all a bunch of young guys

like me." (Shindell: Uhm-hmm.) I was thirty-three when I went to my first startup and I was far from being the youngest person there. [Laugh]

SHINDELL: Uhm-hmm. Was that disorienting for you to step into this different culture after ten years at Eli Lilly?

COHEN: Yeah. It's disorienting. It's a little bit scary. But, it's so exciting. I won't say that I absolutely love small companies better than big ones, but a very large company is not going to ask me to run it. (Shindell: Uhm-hmm.) And, a small company gives you opportunity and responsibility, and lets you take risks. It wasn't just that most of the people in the company were as young or younger than I. The Board of Directors was (Shindell: Uhm-hmm.) largely as young or even younger than I. There's a youth and a comfort with risk. Initially, the risk is rather shocking when you look at the company's bank balance, when you look at how few people you have to do, when you look at how big your technological challenges are. But, after a time you get comfortable with it. (Shindell: Uhm-hmm.) After a time I ceased to feel how risky it was. If I felt we were doing something worthwhile my confidence in the people, my confidence in myself, our ability to raise capital is something that I ceased to question. (Shindell: Uhm-hmm.) So, after a year or two of this I really stopped worrying about whether the company was going to be around. But, it is, it's, you also realize that if you want something done there's nobody to do it. (Shindell: Uhm-hmm.) And, I don't mean the big stuff, like what you're going to do in your laboratory, or writing a business plan, or trying to go out and find a partner for a project. I mean, a lot of the routine stuff that you never thought about. (Shindell: Uhm-hmm.) For example, the light bulb in your office goes out. At Eli Lilly you filled out a form, you submitted [Laugh] it to an assistant, and sometime in the middle of the night a guy in a gray jumpsuit came into your office and changed a light bulb. You didn't worry about it. In a small company, when the light bulb above your desk burns out, you or someone else [Laugh] has to drive over to the store and buy a package of light bulbs (Shindell: Uhm-hmm.)

296 and bring them back and screw them in yourself. You learn how to run the office equipment.
297 At Eli Lilly, in 1988 when I left, only the first-line market research analysts and financial
298 analysts routinely were using computers. (Shindell: Uhm-hmm.) Middle management and
299 senior management did not have desktop computers. I had just gotten one and was (Shindell:
300 Uhm-hmm.) barely learning how to use it. In a small company I had to get one immediately
301 and learn to use it and write a business plan. (Shindell: Uhm-hmm.) So, it's doing things
302 yourself, (Shindell: Uhm-hmm.) but you don't want to get sucked into spending all your
303 valuable time doing mundane chores. (Shindell: Uhm-hmm.) So, you end up working more.

304 **SHINDELL:** Uhm-hmm. And, you noticed the cultural difference, what, what about the people
305 who would not leave Eli Lilly for a, for a biotech, or who did not realize that there was
306 anything exciting in biotech? I'm wondering, I guess, how did Eli Lilly as a whole view
307 Hybritech at the time that it acquired it? I mean, what, what was it that finally influenced it to
308 buy Hybritech and also, you know, what was its general attitude towards biotech startups and
309 what they meant to the business that they were doing?

310 **COHEN:** I should point out that when I worked at Eli Lilly I was not part (Shindell: Uhm-
311 hmm.) of the part of the company who was looking at investing in biotechnology, although my
312 last job at Lilly had a lot of parallels to that. (Shindell: Uhm-hmm.) I was head of business
313 development for the group that made investments in or acquisitions of startup medical device
314 companies. (Shindell: Uhm-hmm.) And, I think a lot of this is really the same. I think Lilly,
315 like all big companies, over time began to recognize that despite their size they did not own
316 the market for interesting, important, new ideas. (Shindell: Uhm-hmm.) They were very
317 strong in product development. They were very strong in sales and marketing. And, of
318 course, with vast financial resources they could do a lot of things. But, most original ideas
319 don't come from large, large organizations. (Shindell: Uhm-hmm.) Most original ideas come
320 from individuals or small teams of people. So, the great eureka moment of invention is

equally likely to happen at Eli Lilly or another large pharma company, or right here in a room like this, a few people who may not even have a company yet. It's small teams of people thinking. I can't remember who it was, but it's a well-known quote, "Invention is seeing what everyone else has seen while thinking what no one else has thought." (Shindell: Uhm-hmm.) It's a fairly random occurrence and big companies don't invent more because they're smarter. They invent more because they have more people, more teams, (Shindell: Uhm-hmm.) more people thinking about this stuff. Eli Lilly bought medical device companies because we found ideas that fit with the broader theme and a commercial infrastructure that could sell the stuff. Eli Lilly bought Hybritech because it was an early innovator in biotech. Eli Lilly had previously entered a collaborative relationship with Genentech so it could get the rights to human insulin, (Shindell: Uhm-hmm.) because Lilly was the leader ,one of the leaders in the world market for animal-sourced insulin, (Shindell: Hmm. Uhm-hmm.) and if insulin was going to go human it had to be there. Eli Lilly went to Hybritech because it, it probably wasn't absolutely certain where it was headed, but monoclonal antibodies seemed to be an important pillar of technology long-term. They turned out to be way ahead of reality in their expectations for using antibodies to target drug delivery, although eventually that did pan out pretty well. Monoclonal antibodies for targeted cancer therapy (Shindell: Uhm-hmm.) are a big business today. I think there was also an intangible. Eli Lilly in the mid, mid 1980s, there was a risk that they were going to slip from a long-term number one-number two kind of company to a middle-of-the-pack company, (Shindell: Uhm-hmm.) and being in biotechnology probably enhanced Lilly's reputation as an innovator. And although in dollars and cents it's quite debatable whether Hybritech was a good investment, they paid a lot of money. It had a few good years but eventually it all came apart. (Shindell: Uhm-hmm.) Some would argue it was actually a very good move for Lilly, because if you look at the price-earnings ratio of Eli Lilly shares, it expanded in the aftermath of the Hybritech acquisition. (Shindell: Uhm-hmm.)

And if you look at what the analysts wrote about Eli Lilly at that time, pre-Hybritech there was a certain amount of Eli Lilly as an aging beauty. (Shindell: Uhm-hmm.) After Hybritech the analysts were more likely to write, "If you believe in biotechnology, Eli Lilly may be among the better bets of the big pharmas, (Shindell: Uhm-hmm.) because of its Genentech relationship and now the Hybritech investment." So, it helped to transform the culture of Eli Lilly and the nature of the research that big pharma does, and they of course have since made many, many, many biotechnology investments and acquisitions, and they have a number of products. They still market insulin, they still sell growth hormone, and a number of other things. (Shindell: Uhm-hmm.) So, I think biotech has, in some favorable ways, helped to change the culture of large pharmaceuticals.

SHINDELL: Hmm. Now, did you have people who you kept in touch with at Eli Lilly after you left there?

COHEN: Lots of them. (Shindell: Yeah.) Most of them, today, have either gone on to biotech or (Shindell: Ah.) retired, but sure. We, we kept touch all these years.

SHINDELL: Because, I was wondering how they reacted to your leaving the big company for the small company?

COHEN: They were all pretty surprised. (Shindell: Uhm-hmm.) I mean, I was third generation Eli Lilly and my career was going quite well. I think most people thought that I had a bright future and I believed that. (Shindell: Uhm-hmm.) And, why would I leave? It's not a question of going to do a thing that is good versus staying with a thing that's bad. (Shindell: Uhm-hmm.) Had I stayed at Lilly I suspect I still would have had a very rewarding career. But, I had a bug. I was antsy. (Shindell: Uhm-hmm.) I wanted to try something else. The people who stayed, people stay for a lot of reasons. I recently had a chance to attend a reunion. They have an alumni network (Shindell: Uhm-hmm.) and I saw a lot of people, including people I

370 started with thirty years ago, a couple of whom were still there. And, some of it is they never
371 got the bug to leave. The career was satisfying. A lot of it is personal stuff. Having a good job
372 and a bright future, and a home and a family that lives in a certain place, and walking away
373 from it to bet your livelihood on something completely untested, some of us are more
374 comfortable with that than others. (Shindell: Uhm-hmm.) It depends a lot. If I, at the time,
375 had had children to put through college I don't know if I would have felt the same way about
376 taking the risk. (Shindell: Uhm-hmm.) We're all different. Again, sometimes you see an
377 arrogance in biotech. I've met a lot of people who have this attitude suggesting that
378 entrepreneurs are somehow intellectually and morally superior to people who spend their
379 careers with big companies and it's nonsense. (Shindell: Uhm-hmm.) Big companies do a lot
380 of great stuff. Yes, they drive you crazy with their systems and their bureaucracies, but that's
381 part of how they preserve a culture and you've got to hand it to these big companies. Eli
382 Lilly's been in business for over a hundred years. (Shindell: Uhm-hmm.) Merck's been in
383 business for I think about a century. The fact that these companies have been business for a
384 hundred years and they're still in business innovating and making money, okay their growth
385 has slowed. Big Pharma has deep problems. We all know that. But, they're still around. How
386 many of the biotech companies started in 1975 will still be around in (Shindell: Uhm-hmm.)
387 2075, after I'm dead and gone? (Shindell: Yeah.) I don't know. [Laugh]

388 **SHINDELL:** Let me ask you about sort of the collective experience of all of the different
389 positions you've held at the different companies that you've worked for or helped to found.
390 Obviously you are regarded as someone who, who knows a lot about the field if you're doing
391 consulting and you've been a CEO. But, what is it that you learned at these different positions
392 that made you a good CEO, that made you a guy who can answer the questions of other
393 companies as well when they, you know, are struggling and need help?

394 **COHEN:** That's a very difficult question. (Shindell: Uhm-hmm.) Ultimately, like everything
395 else, it's experience. Experience generally in life and experience in your particular field. I, I
396 just signed an engagement to chair a board of a brand new company. The science is in Chicago
397 but the company will be virtual and if we build it we'll build it here. (Shindell: Uhm-hmm.)
398 But, they initially asked me to be CEO of the company and I said, "A, I don't want to do that
399 right now in my life, but B, I don't think your company needs a CEO yet. All your company
400 needs is some experienced guiding hands to make sure that you avoid fatal mistakes in the
401 first year of the company's life." (Shindell: Uhm-hmm.) I don't think I've made any fatal
402 mistakes in companies but I've certainly participated in [Laugh] mistakes. Most situations
403 that I see in biotechnology or pharmaceutical businesses either are the same as or remind me
404 of something I have seen or been through before. (Shindell: Hmm. Uhm-hmm.) And, it's the
405 benefit of that experience that hopefully teaches us to repeat some good stuff and change
406 some bad stuff. A lot of it also is just life experience, you know. Managing expectations.
407 (Shindell: Uhm-hmm.) Helping to tone down how much you're going to get done and how
408 long it's going to take, and how long it's going to cost. You have to be realistic about that stuff.
409 In any business, in any organization, you're making a bet that the people are going to be able
410 to deal with a great deal of uncertainty and ambiguity. (Shindell: Uhm-hmm.) If you look at
411 the biotech companies who are successful, very few succeed at what they initially set out to
412 do. (Shindell: Uhm-hmm.) A few do. IDEC here in San Diego did really what the original
413 vision said could be done. People doubted it, but they stuck with it. I believe Somaxon is
414 going to succeed at the original mission to develop this insomnia drug. But, many other
415 companies. Amgen, nothing that made Amgen a great company was on the list of the first five
416 or ten projects they worked on (Shindell: Uhm-hmm.) when it was a startup. It's a well-
417 known story. So, you're going to have disappointments. You're going to have failures. Can
418 the people deal with that and adapt? There are companies that have still not really succeeded

419 from a business point of view, but they stay alive and they live to fight another day because of
420 the resourcefulness of the management and the ability to reinvent themselves. And, it's not a
421 business where you ever have total control, (Shindell: Uhm-hmm.) because you're still betting
422 on a technology and whether that will translate into a clinical benefit in patients, and you're
423 betting on whether the regulatory authorities are going to agree with your judgment about
424 what is a worthwhile drug to give people. (Shindell: Uhm-hmm.) So, there is a certain
425 element of luck involved, but it isn't either you're lucky or you're not. If you're not lucky, have
426 you done things with your management skill that enable you to survive the runs of bad luck?
427 (Shindell: Uhm-hmm.) If you raise a lot of money, do you keep enough for a rainy day? Do
428 you keep your options open? It's, so, so there are a lot of mistakes I think you can avoid and
429 preserve flexibility and be a little cautious and run scared.

430 **SHINDELL:** Uhm-hmm. Let me ask you about San Diego's biotech scene. In particular, you
431 entered it in sort of the mid '90s coming here from Houston, right? So, when you first got
432 here, and based on your experiences from then up until now, how has the San Diego biotech
433 scene changed from that point on or has it remained fairly stable? And, what is it, do you
434 think, that makes San Diego a profitable biotech sector or what is it that has contributed to its
435 success? If you want to name what you think are the most important contributing factors to
436 that.

437 **COHEN:** I don't think its changed all that much. Which technologies get the attention, the
438 number of companies doing various things, the number of people in those companies, all of
439 course have grown and we have more diversity than we used to have, but at the core, I don't
440 think it's changed that much. (Shindell: Uhm-hmm.) There's still a well-known group of
441 people that's at the center of most of these things. We all know each other. There's a lot of us
442 here who have done this multiple times, and there are still a few people that all of us really

443 look up to (Shindell: Uhm-hmm.) who have been leaders in many of these companies.
444 Interestingly, many of them still all derive from the Hybritech family tree.

445 **SHINDELL:** And who, who would those people be, by name?

446 **COHEN:** People like Ted Greene, David Hale, Cam Garner, certain investors. (Shindell: Uhm-
447 hmm.) Although, they're not doing as much biotech today but venture funds mostly originally
448 not from San Diego, Domain Associates, who did finally open an office here a year or two ago.
449 Kleiner Perkins, from the Bay Area. You know, there's MPM Capital has become a big player
450 here in recent years. But, there is really a core of people and investors. There's certain
451 lawyers who, who have been very important in (Shindell: Uhm-hmm.) all of this. The law
452 firms have developed the expertise in the industry to support it. The, it's all about people.
453 This is a place where people who wanted to do this and turned out to have a knack for doing it
454 (Shindell: Uhm-hmm.) either already lived or wanted to come and live, and that's the
455 combination of the entrepreneurs, some of whom I've mentioned. It's also the science. This,
456 obviously, is a spectacular community for scientific research and there does seem to be
457 something in the rules and the regulations of how academic science can potentially be moved
458 out of academia into a commercial environment that's helped to facilitate it. You've had
459 organizations like CONNECT, with its roots at UCSD that's had a role, but ultimately it's the
460 people. (Shindell: Uhm-hmm.) A lot of the great companies here in San Diego are not built on
461 science that came out of a San Diego institution. (Shindell: Uhm-hmm.) That's diversified
462 now. I just mentioned a new company I'm working on that if we get good data and decide to
463 build the company the science is in Chicago. (Shindell: Uhm-hmm.) Somaxon got its science
464 from New York. There are many companies that are getting the science somewhere else, but
465 here you have a core of people who understand research, development, manufacturing and,
466 more and more, commercialization. We're asked all the time, "What are the things you need
467 to do to replicate this?" (Shindell: Uhm-hmm.) I don't know if you can plan to replicate it.

468 (Shindell: Uhm-hmm.) I think this is just a place where the right kind of people want to be to
469 do it. Legislators and regulators are always asking, "Well, what do we need to do to our laws
470 in South Dakota (Shindell: Uhm-hmm.) so that we could have a biotech cluster?" I just don't
471 see large numbers of people, like these scientists or these entrepreneurs, who are ever going
472 to want to pick up and move to South Dakota. (Shindell: Uhm-hmm.) People talk about tax
473 policy and regulatory policy. (Shindell: Uhm-hmm.) What does your research say are the
474 states in America that are most successful in biotech and high-tech clusters of startups?
475 California, Minnesota, Massachusetts, New York. Right? (Shindell: Uhm-hmm.) Can you
476 think of four states that, from a tax and regulatory [Laugh] point of view, are worse places to
477 start or build a business? (Shindell: Uhm-hmm.) California, in dollars and sense and in
478 regulatory policy, is a terrible place to start a company. (Shindell: Uhm-hmm.) Between the
479 personal income tax and the corporate franchise tax, and the workmen's compensation rules
480 and the mandated breadth of what your basic health insurance has to include, [Laugh] this is a
481 terrible place to start (Shindell: Uhm-hmm.) a business, except that the people you need to
482 start and build your business are here and this is where we want to live. I was approached
483 not long ago about an extraordinary opportunity that would have required moving back to
484 Texas. (Shindell: Uhm-hmm.) On paper, that's what I should do, [Laugh] but I don't want to
485 move back to Texas. I want to live here, so I'm just going to put up with the, [Laugh] the
486 disadvantages.

487 **SHINDELL:** So now let me shift to a, maybe a more personal question. How has being a part
488 of this environment, the San Diego biotech environment, and maybe biotech in general prior
489 to that in Houston, and you know even back in Indiana, how has that affected your life, you
490 know, your development? Do you feel like you're a different person than you would be
491 otherwise had you not gone into biotech?

492 **COHEN:** I don't think I'm a different person, but certainly my memories and the things that I
493 can look to that I've been a part of are extremely satisfying. Some of it is the product and what
494 the product does. At Eli Lilly I was the product manager for the launch of a drug called Prozac.
495 (Shindell: Uhm-hmm.) How many millions and millions of people have benefited from that
496 product? And, I'd go so far as to say, how many tens of thousands of people are here on this
497 earth today as a result of that drug and other drugs like it, (Shindell: Uhm-hmm.) rather than
498 having taken their own lives, which is the most dangerous symptom and result of depression?
499 So, I look at the products and I look at the technology and science that I've worked on and I
500 think there's a real contribution there. But, the other part of it, I've created a lot of jobs. I
501 mean, Somaxon down the street, forty people, good jobs, great work environment, worthwhile
502 work, five years ago it didn't exist (Shindell: Uhm-hmm.) except on paper and in the minds of
503 a few people. [Buzzing in background] That's my parking meter.

504 **SHINDELL:** All right. Well then, I guess we can end the interview for now, since we're out of
505 time. Thank you very much for coming in. Is there any last thing you might want to say
506 before we end this recording?

507 **COHEN:** The last thing I'd say is we're currently in very pessimistic times for the biotech and
508 pharmaceutical industries. Big Pharma has its well-publicized problems with pricing, patent
509 expirations, lack of innovation. Biotech needs resources. It struggles with the FDA. We have
510 what seems to be a decreasing willingness of the public to pay (Shindell: Uhm-hmm.) for
511 innovation as we try to get a handle on our national healthcare costs and, and for many of us
512 in need for universal health coverage. But, it's a business that seems to overcome ridiculous
513 odds, (Shindell: Uhm-hmm.) and in spite of all the pessimism, and I feel some of that
514 pessimism these days when I look at my stock prices of my biotech companies, it's a problem-
515 solving industry (Shindell: Uhm-hmm.) and hopefully it will work its way through these
516 difficult times and do it again.

517 **SHINDELL:** All right. Well, thank you very much.

518 **COHEN**: Thank you.

519 **END INTERVIEW**

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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.