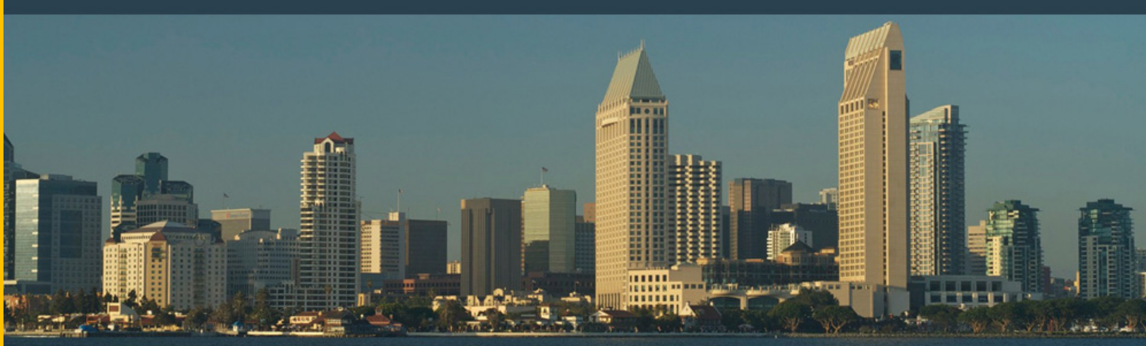
Larry Bock

Interview conducted by

Mark Jones PhD

June 10, 2014

SAN DIEGO TECHNOLOGY ARCHIVE



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Larry Bock

Mr. Lawrence A. Bock is a Special Limited Partner at Lux Capital Management. Mr. Bock also founded the firm. He is a Co-Founder of Nanosys Inc. Previously, he was a Managing General Partner at CW Group, Inc. since June 1998. At CW Group, he managed the firm's West Coast office focusing on technology based start-ups and is based at the firm's San Diego office. Mr. Bock has more than 20 years of leadership in the life sciences and nanotechnology industries and has been a Co-Founder of over a dozen companies and has served as the Chief Executive Officer of six. He served as a Managing General Partner at CW Group from June 1998 to April 2004. From 1988 to June 1998, prior to joining CW Group, Mr. Bock was with Avalon Ventures as a General Partner. He was with the firm for nine years and was involved in the early stage financing of 15 highly successful biotechnology companies, including Vertex Pharmaceuticals, Pharmacopeia, Inc., Neurocrine Biosciences Inc., ARIAD Pharmaceuticals, Metra Biosystems and a recent example, Caliper Technologies Corp. Mr. Bock has been the Founder and initial Chief Executive Officer at Metra Biosystems, Inc., Neurocrine Biosciences, Inc., Pharmacopeia, Inc., Argonaut Technologies, Inc., and Caliper Technologies Corp. He was a Co-Founder of ARIAD Pharmaceuticals, Inc., Athena Neurosciences Inc., GenPharm International, Vertex Pharmaceuticals Inc., Onyx Pharmaceuticals Inc., and Illumina Inc. Mr. Bock began his career in infectious disease research at Genetic and later joined Fairfield Venture Partners where he participated in financing a dozen biotechnology companies. He has been a Director of Nanosys Inc. since 2001 and is the Executive Chairman of Nanosys Inc. Mr. Bock serves as a Member of the Advisory Board and the Technology Advisory Board of the Nan Business Alliance. He served as a Director of FEI Co. since December 16, 2004 until August 6, 2012. Mr. Bock also currently serves as the Chairman of Lux Ventures' Advisory Board of industry experts advising the investment team. He is also the Founder and Executive Director of the USA Science and Engineering Festival. He holds an M.B.A. from the Anderson School at the University of California, Los Angeles and a B.A. in Liberal Arts from Bowdoin College, both with highest honors. Mr. Bock also graduated with a Biochemistry degree from Bowdoin College.

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INTERVIEWEE: Larry Bock

INTERVIEWER: Mark Jones, PhD

DATE: June 10, 2014

Mark Jones*:* What I would really like to do is record a biography. Your story from the beginning. Let's go back to the very beginning. Where were you born?

Larry Bock*:* I was born in Brooklyn, New York. I grew up most of my life in Chappaqua, New York, the suburb of New York City. It's where the Clintons now live. I went to college in Maine.

Mark Jones*:* Let me ask you a little bit about your family and growing up. Did you have siblings?

Larry Bock*:* I had one brother and – one brother and two parents. *[Laughs]* I actually got introduced to the biotech industry by my father who was an early stockbroker in the field.

Mark Jones*:* Who was he with?

Larry Bock*:* He was with multiple different firms, but probably at the time, it was mostly in the biotech area, Bear Stearns.

Mark Jones*:* So he's in finance and your mother – did she work or was she a homemaker?

Larry Bock*:* She was a professional chef. She was the chef for Carroll O'Connor, Archie's Bunker's restaurant.

Mark Jones*:* In New York?

Larry Bock*:* In New York, but when I was a freshman in college, they moved out to California. She moved out to Beverly Hills to open up a restaurant in Los Angeles and I continued to go to college in Maine, but then afterwards, moved out to California.

Mark Jones*:* Well, growing up, your father is in finance, the family is pretty well-to-do; you have opportunities –

Larry Bock*:* My father was a stockbroker up and down, up and down. He lived for the moment. And so it was either boom or bust.

Mark Jones*:* Were you a good student?

Larry Bock*:* I was a good student. I was a straight-A student and went to college. Actually, I didn't get into the colleges that I was hoping for.

Mark Jones*:* So was this Harvard, Yale, Princeton –

Larry Bock*:* Yes – or Amherst, Williams, the small liberal arts college. I got into one on the waiting list and ended up going there.

Mark Jones*:* Well, Bowdoin is a good place.

Larry Bock*:* Yes. In fact, there's kind of a funny story. I had a friend who used to play jokes on me. He had his sister pretend she was someone else and ask me out to the prom. The next day I went to school, thinking this girl asked me out to the prom and I looked like a fool. And then fast forward, about three months, I was on the waiting list for Bowdoin and I got a phone call that night from a lady and who says: "Oh, you cleared the waiting list." Oh, it's him playing the same joke. So I cursed her out and found out it was really the lady from Bowdoin.

Mark Jones*:* And you majored in biochemistry. Had you developed an interest in science prior to this?

Larry Bock*:* Yes, I was always interested in science.

Mark Jones*:* Where did that come from? Your dad is a stockbroker. Did he have any –?

Larry Bock*:* Actually, it probably came from high school. I went to a pretty innovative high school and we got to do things you could not do in a science class these days: anesthetize rats, perform surgeries, bring them back, do all sorts of experiments on them. So it just really intrigued me. I was headed down the medical school route, but didn't get into medical school. And that was when I was searching for what I was going to do next and I landed a job at Genentech.

Mark Jones*:* Did you get any kind of pressure to go to medical school? I don't know if pressure is the right word, but I guess there's an expectation at home that you would succeed professionally.

Larry Bock*:* Yes.

Mark Jones*:* That was just kind of assumed. Did you see medical school as a way of accomplishing that?

Larry Bock*:* I actually was really interested in medicine and did a lot of voluntary work, working with mentally challenged kids and stuff and really loved that. I had straight A's through high school and college and had all the right background. So I was kind of floored when I didn't get in. But in retrospect, God kind of had his hand on my shoulder in getting this job at Genentech.

Mark Jones*:* Right, especially – what was the year?

Larry Bock*:* It was 1981.

Mark Jones*:* Okay. So that's really early on. You are in Bowdoin on the East Coast. There's no real logical connection to that next step, Genentech.

Larry Bock: Through my father. So my father interestingly was a stockbroker and he was doing a lot of the trading in a lot of these biotech stocks. One day he took me to his office to meet this guy that he thought was really interesting and that I should meet: David Blech. He said, "Hey, this guy is a music major and he started up several of these biotech companies. Why don't you do that?" And I said, "Well, I don't really have the background to do that." He said, "Well, this guy is a music major." I met David Blech that day in his office. I had just started thinking about what I was going to do next. So I went after the various jobs of what some of the leading biotech companies at that time.

Mark Jones: So David Blech made a good impression on you?

Larry Bock: He did. He's incredibly creative. I think the biggest impression was that he must have been in his early 30s or even late 20s at that time. He had a couple of 100 million dollars to his name. He left the office with my dad and then he came back about 20 minutes later because he forgot to validate his parking ticket. *[Laughs]*

Mark Jones: Well, that's in 1981. He must have just started Genetic Systems.

Larry Bock: Yes.

Mark Jones: And so it was brand new.

Larry Bock: Yes, I think at that time, he had Genetic Systems, and one other, maybe BTG.

Mark Jones: So did you do a little research into what was out there?

Larry Bock: Yes. I started applying to the various biotech companies and I applied to Genentech. I got rejected about three times before they took me as a research associate. I worked there for approximately three years.

Mark Jones: Well, I would like to hear about Genentech, but were there other firms that you looked at?

Larry Bock*:* I applied to Amgen. I applied to – I think it was Codon. It was the one started up by the ex-Genentech founders, one of the early Genentech guys, right by Genentech.

Mark Jones*:* Oh, was it called Codon?

Larry Bock*:* Not Codon. Not Cetus [either]. I did apply to Cetus as well.

Mark Jones*:* There's a small company that I think Sharon Carlock was the person and the manufacturing guy from Genentech started –

Larry Bock*:* Yes, exactly, and it was right there in South City. In fact, they rented an old Genentech building in the process.

Mark Jones*:* So you talked to them.

Larry Bock*:* I talked to them. Then I talked to a lot of academic-type genetic engineering type jobs, but I really wanted to be in a small company. I went up to Genentech. I can remember the first interview, sitting in the lobby and it was this warehouse kind of building. I didn't really know what to expect while waiting for my interview, I heard over the loud speaker – the employees had access to the PA system – and they were broadcasting messages like "Kirk to enterprise," *[laughter]* over the general PA system. I go, "What a fun place. I really want to work here."

Mark Jones*:* Yeah, the culture was famed, wasn't it?

Larry Bock*:* It was. It was just an amazing. I can't remember what the average age was, but it seemed like it was under 28 and they were all goofy, funny people and it was this environment where you felt like you wanted to work all day. I spent hours and hours a day there, but I never thought I was working.

Mark Jones*:* So the flip side of the fun part is – and I talked to David Goeddel about this – you know they're really driven and focused and get it right. And it was really important to be good.

Larry Bock*:* To be good and competitive, they created this culture within the company where different groups were working on the same project. They were literally competing with each other, which is an odd thing. You think that they would be working together, but I think it ended up being an effective strategy. That's the good news. The bad news is that there was some dysfunctionality in that projects would wax and wane in popularity. Genentech probably gave up on some real interesting programs because they hit some technological snafu.

Mark Jones*:* Can you remember any examples?

Larry Bock*:* I worked in a group that worked on a lot of the blood, plasminogen activator and things like that. So urokinase plasminogen activators were always kind of waxing and waning. EPO, I remember days when EPO was a project that we were working on, but Amgen got way ahead and I can even remember days when they had a chance to license EPO from Amgen for probably a dime.

Mark Jones*:* Really? Amgen was ready to give up on it?

Larry Bock*:* Well, not ready to give up. They were strapped for cash, too, and Genentech could have been their partner in the process. I was working in a program in the vaccine group that waxed and waned many times. So we were both doing animal and human vaccines, but with hepatitis B. We were competing with Chiron on that and they obviously succeeded. We were doing all these animal vaccines and they were interested in animal vaccines. I don't know all the details of it, but Genentech had a lot of dumb luck in the process. One of which was, as I recall, right at the key point with hGH. Some kids came down with the Jakob-Creutzfeldt syndrome from the bovine derived form. If that had not happened, Genentech might not have been the company it is today.

Mark Jones*:* That's interesting. You mentioned urokinase. Was urokinase already a product?

Larry Bock*:* While I was there, they were all research projects. I think I left right as tPA was being approved. Urokinase had even dropped down as a not a major program.

Mark Jones*:* So you arrived at this point in your career. You're just getting started. You’re working hard at the science. Is it your plan to be an industrial scientist?

Larry Bock*:* I thought about reapplying to medical school, which I did, but partially through that whole David Blech thing, I ended up applying to business school. With science you have to be really good with your hands, particularly back then because you are washing glass plates and pouring agar in them. It was an art as much as a science. I was good at certain things, but not great at all things. I decided to go down the business route.

Mark Jones*:* I'd be interested in to hear just a bit more about some of the projects that you worked on at Genentech. When you arrived, who did you talk to when you first got there? Who interviewed you?

Larry Bock*:* Dennis Kleid was probably the main person. I worked for a scientist named Steve Shire, who reported up to Dennis Kleid, up to and another guy named Jackal Bijeski. Dennis was an early founder of the company and most of the programs that we were involved in were his sort of his vision, so a lot of the animal vaccines. I predominantly worked on foot-and-mouth disease at the company.

Mark Jones*:* How did that go? When you first walked into the lab, what did they have you do?

Larry Bock*:* I was a protein chemist. They had just gone to Plum Island, which was the only place where you were allowed to work on foot-and-mouth disease and take various fragments of the foot-and-mouth disease.

Mark Jones*:* So you took it back?

Larry Bock*:* They did, but they had to take it to pieces. There was a lot of fear about taking anything off of Plum Island. So that's right about the time I arrived when there were dozens of subtypes of foot-and-mouth disease. So we were working on the first one and I was in the group that was responsible for purifying it from E. coli and then getting it ready for injection into cattle. Well, first into rats just to see if it raised a tiger and then into cattle. And then that early work was one of the first vaccine projects that ended up winning the science magazines, Newcomb Cleveland Prize.

Mark Jones*:* Is that after you cloned it?

Larry Bock*:* It had gone from cloning it to purifying it to injecting it into cattle and shoving it with protective in cattle, but that was what the science paper was about. So I wasn't responsible for all of those. I was responsible for just a small part of that.

Mark Jones*:* From there, you're still working with Dennis Kleid and the next thing?

Larry Bock*:* Yes, at Genentech, you're kind of pulled from project to project depending on need. I remember one point they were working on bovine growth hormone and it was right around Christmas when they hit a milestone from what I believe was Monsanto for like a million dollar payment and everybody had to stay there for basically all of Christmas to purify enough of this bovine growth hormone. They were supposed to get a milligram of it in order to be able to hit the milestone payment. So you are pulled from project to project. And I was a researcher associate. I wasn't a senior scientist or anything. I was pretty low down.

Mark Jones*:* Right. But it was enjoyable?

Larry Bock*:* Oh loved it, truly loved it. Best job I've ever had.

Mark Jones*:* And at some point, you start thinking about med school, but are you paying attention to the business aspects?

Larry Bock*:* Not a lot, but a young person, if somebody says "go think about business school," "I don't know about business school."

Mark Jones*:* Who said it?

Larry Bock*:* Probably my dad. And I applied to a number of business schools. I got into UCLA. I didn't get into some of the others. And went there. They had a program between your summer of your first and second year to become a venture capital fellow where you got to work with a venture firm for the summer. And I was fortunate enough to work for this guy named Jean Deleage, who was one of the early VCs in the industry. So I got to go with him to lots of board meetings for different biotech companies and so forth.

Mark Jones*:* Well, tell me a bit about that experience. Certainly, that's an eye-opening thing to see how –

Larry Bock*:* Yeah, there were early investors in Chiron. So got to go to Chiron a lot. I was an observer at board meetings and stuff.

Mark Jones*:* What do you remember observing?

Larry Bock*:* That's a good question. Well, let's see. I love when they say the ones that they were really involved was Chiron plant genetics; at the time they were involved in gene.

Mark Jones*:* Plant genetics – was that Peter Meldrum?

Larry Bock*:* It was out in Davis and had the tubers, if you remember those, they were tiny little potato things that were encapsulated in some resin. The part that I learned from Jean Deleage and I can remember it distinctly: It was all about the people and he had a particular phenotype of person that he was going after to be investor, to invest in and that's probably the most important thing.

Mark Jones*:* Did he articulate that?

Larry Bock*:* Well, he probably did articulate it. He was very French. So it was really hard to understand. And he's passed away recently. Did you guys get to do an interview of him?

Mark Jones*:* No, we didn't. It was in 2009 or something, wasn't it?

Larry Bock*:* It's been a while, yes. Interestingly, there was another guy in that office and I'm forgetting his name but he was – it was two VCs that were sharing an office: Burr, Egan & Deleage and Sofinnova. And there was a guy – and I think at that point it was Wells Fargo Ventures who – what relayed to me the story. Jean Deleage was an early investor in Genentech and so forth. But this guy, and I'm trying to remember his name, was really an elderly gentleman. He was apparently the guy that Bob Swanson was thinking about interning or doing something in the VC world and he was talking to Kleiner Perkins and he went and met with this guy. And this guy claims that he was the guy who introduced him to Herb Boyer and said, "Well, you ought to take a look at this stuff." One of the things I found most fascinating was looking at the business plan of all these companies that had gone on—like Genentech—to be successful. The original business plans were in there plus everybody's notes and everything. And I remember reading the notes.

Mark Jones*:* Well, I'll track down the names. Is he still around?

Larry Bock*:* I imagine he passed away. But he was in the offices with Burr, Egan & Deleage and he – I believe he was with Sofinnova because he was French as well, but I think at that point also he somehow was associated with Wells Fargo Venture Funds.

Mark Jones*:* Okay, that's enough information. I think I can find the name.

Larry Bock*:* Yeah, I thought that was fascinating.

Mark Jones*:* So you're looking at these business plans. You had worked at Genentech and then –

Larry Bock*:* And now I can go look at the business plans of what it looked like at the beginning. All these business plans of companies that had totally been successful yet had gone a long way. I got to look at these things and see really what it was that they were pitching at the earliest point and that was probably the most valuable thing that I got access to that summer.

Mark Jones*:* And did you feel like you were taking to this? You had spent a lot of time doing science, thinking about med school, but this is something completely different, but it sounded good to you?

Larry Bock*:* Yeah, it definitely sounded good and I got involved while I was at UCLA in the Entrepreneurship Club and the most valuable experience I had was the business plan competition and did that and won that competition. So that was kind of the impetus to getting into this VC world and the entrepreneurship world.

Mark Jones*:* When you were at UCLA, is there anybody there talking about biotech or still too small to track?

Larry Bock*:* Oh, there's definitely people talking about biotech and biotech had matured in some sense at that point. The companies were here to stay. They were here to stay even when I joined them. I would say I thought it was rocky, but they were here to say.

Mark Jones*:* Okay. Anything else to note about your time at UCLA?

Larry Bock*:* So I got that internship with Burr, Egan & Deleage and I was looking at a spin-out of Hybritech for Burr, Egan & Deleage called Cytotech which was –

Mark Jones*:* That was an early one. Paul Rosinack?

Larry Bock*:* Paul Rosinack, exactly. And it ended up not being successful but I done a whole due diligence package on it for Burr, Egan & Deleage. And the venture firm that I eventually was going to join, Fairfield Ventures, got hold of that and then they contacted me. And then when I graduated from business school, I ended up working for them full time.

Mark Jones*:* So it was on the strength of that report?

Larry Bock*:* On that, yes, on the strength, exactly.

Mark Jones*:* Okay. And Fairfield was located –

Larry Bock*:* Fairfield was located in Connecticut. Fairfield was an older kind of older venture fund but it merged with a venture operation coming out of Corning Life Sciences and at that point of that merger, they raised a new fund and they opened a West Coast office and I joined a guy named Ned Olivier. I don't know if you knew him.

Mark Jones*:* Yes. I have an interview, yeah.

Larry Bock*:* He's very interesting to open up the Costa Mesa office. That was my first job out of business school.

Mark Jones*:* Yes, and Corning at that time had gotten into Genencor?

Larry Bock*:* Genencor was probably even started while I was still at Genentech. I think the early stages of Genencor had gotten started because Herb Heyneker. He was at Genentech in the same protein chemistry group that I was part of and was a co-founder, I think, of Genencor along with Jonathan MacQuitty, with whom my path crossed at a later point.

Mark Jones*:* Herb Heyneker was one of the original cloners; right?

Larry Bock*:* Yes, absolutely.

Mark Jones*:* So you learned a lot about the science –

Larry Bock*:* Yes– and the enthusiasm and the rigor and so forth. After I left, I joined Fairfield Ventures.

Mark Jones*:* Well, what kind of offer did they make you?

Larry Bock*:* Open as an associate. I was an associate. I wasn't a partner. And I was working directly for Ned. Fairfield was new to the biotech arena and Ned was spearheading that and it was always a tension within Fairfield about these biotech companies. They don't have any revenue, why are we investing in them? Let's invest in more of the hardware – computer hardware type things.

Mark Jones*:* So you're making justifications?

Larry Bock*:* Yeah, we're making justifications and Ned was the ultimate salesperson. Ned said, "Look, we're not known in the biotech arena." So he strung himself to the coattails and got into a couple of deals that Kleiner Perkins was involved with early on. Those included IDEC, Gen-Probe – I'll think of them in a second – Gensia. And then we're kind of riding the coattails of Kleiner Perkins in those deals and I really wanted to do some start-ups. I was looking at doing something in the neuroscience field and it was in that area that I bumped into Kevin Kinsella, who will become my future business partner and we had collided in the lab with a guy named Dennis Selkoe at Harvard.

Mark Jones*:* When you say collided, did you actually meet –

Larry Bock*:* We were both talking to him and we both thought he'd be a good person to start a company with. Kevin was a lot more senior and had done this many more times. So Avalon, where Kevin was, and Fairfield decided to collaborate to form Athena Neurosciences and then then Kleiner Perkins and IVP joined in. And then Kevin became my role model. So he and Howard Birndorf that I had met in this whole process were the people I wanted to be like. Kevin was a founder of Hybritech with Ivor and then founded Gen-Probe and so I got to see him in that Gen-Probe context. Ivor was a founder of IDEC. I don't remember if Howard was involved.

Mark Jones*:* I think he was involved.

Larry Bock*:* I think he was. But then I would see Howard at Gensia and Viagene, and several others. So Kevin and Howard were the people I wanted to be like – very different personalities *[laughs]*. I started trying to put together another company in the area of – I'm trying to remember the order. I think it was in the area of transgenic animals called GenPharm and Kevin and I did that together and that's when I re-crossed paths with Herb Heyneker and Jonathan MacQuitty because they were trying to do the same thing out of Genentech.

Mark Jones*:* They were at Genencor by that time; right? What was Genencor doing with transgenic animals?

Larry Bock*:* They were at Genencor. They were looking at vehicles to produce more complex proteins even more cheaply and transgenic animals offered that potential hope. Kevin and I corralled the leading transgenic scientists out there into a company called Chimera and they had a company – I can't remember what it was called, but the two merged together to become GenPharm. So that was the second company I was involved with Avalon while I was still at Fairfield and then the third was Vertex Pharmaceuticals. And then it was after that, that I joined Kevin full time.

Mark Jones*:* So for those companies, you're doing the due diligence and –

Larry Bock*:* So Kevin had a model of proactively creating companies from scratch themselves as opposed to a business plan that would come in and the model that I learned from Kevin was he was spending a great deal of time figuring out who the world's leaders were in those fields and it was just the time of my life because we'd be running around the world, interviewing and meeting with all these people, and then figuring out who were the ones to create the constellations of the company around. And so that's a process I learned through Kevin, through GenPharm, Vertex, and Athena, and then I joined them full time after that to do it on my own, but under the auspices of Avalon.

Mark Jones*:* Yeah, well, it's an interesting approach and when you went to Harvard, you're talking to –

Larry Bock*:* Dennis Selkoe.

Mark Jones*:* Selkoe. This is Athena, the beginnings of Athena. Kevin is already lining people up. What was the purpose of your visit?

Larry Bock*:*   To do the same thing. I was trying to do the exact same thing – I wanted to do something in neuroscience and I was working in particular with some people at UC Irvine that ended up forming Cortex, and Dennis Selkoe at Harvard, which became Athena.

Mark Jones*:*   Yes. So did you have this idea, too, at the same time, like "maybe we can start something"?

Larry Bock*:*   Yes, absolutely, yes, and maybe we can start something and Kevin was doing it and then we joined forces.

Mark Jones*:* You were lining up the scientific people. What's the plan for lining up the business people or putting organizations together?

Larry Bock*:*   So in the case of Athena, the person that we came across who had a similar sort of vision was trying to do that at a company and I'm forgetting, it's called Sicor or – it was up in the Bay Area – named Larry Fritz and he became the first full-time employee of Athena and actually held his offices – the original Athena offices were in the offices of Kleiner Perkins up in the Bay Area, because Kleiner Perkins, Venrock, IVP, Avalon and Fairfield were the original –

Mark Jones*:*   Everybody was in it.

Larry Bock*:*   In it, yes.

Mark Jones*:*   And you would get the scientist first and then go find somebody –

Larry Bock*:*   Kevin's model was to lock up the key scientific visionaries in the form of an SAB, kind of gain access to the core technology of the company through doing that. They would form kind of a warm nest in which probably the full-time scientific visionary would fall. Often that group of scientific visionaries knew that Larry Fritz was in their network and that was the basis of the company really to write the business plan and go out and get the first round of major financing.

Mark Jones*:* Yes. How?

Larry Bock*:* It was that simple.

Mark Jones*:* How important was IP in this equation?

Larry Bock*:* It wasn't as important in the early days. It was really more of an idea and scientific founders and science visionary, it became more and more important with the companies I was involved with as time went on.

Mark Jones*:* Well, you had to make a departure at some point from Fairfield. Kevin had Avalon?

Larry Bock*:* Kevin had Avalon. It was called the Avalon III and Kevin's funds were really small by venture standards. I think Avalon I, II, and III probably cumulatively raised about 2- $3 million. And then I joined him to raise Avalon IV, which was about a $4 million venture fund, as I recall.

Mark Jones*:* So was it just the two of you at that point?

Larry Bock*:* No, there were two other people that he brought in at the same time to do Avalon IV that were on the more high tech type side and Dennis Altbrandt and Dean Hovey. But Kevin and I mostly focused on the biotech and that was when I had to do my first company by myself and I learned a lot of lessons in that.

Mark Jones*:* So tell me about that.

Larry Bock*:* It was called Metrad Biosystems and it was a company in the area of diagnostics for osteoporosis and it ended up going public and being acquired. But it was the hardest project. I almost died in doing it. Probably had to go 150 VCs before I raised the first round of financing for it. So it was a big learning process.

Mark Jones: What was the obstacle?

Larry Bock: Ironically, I went to the VCs that I knew early on: Kleiner Perkins and Delphi Bioventures, who had been part of a lot of the things. And I had it focused it as both diagnostics and therapeutics and they didn't really like that and I just kept with that vision and talked to all these other VCs and eventually I just focused it just on diagnostics and they became the first two investors. So they were the first two I approached and I approached a lot of them afterwards. Then I re-changed the vision to be what I should have been listening to early on and just had it focused on diagnostics. And I think it turned out that one of their grandparents tripped down the stairs and died of osteoporosis. So all of a sudden oh, gee, I remember something about osteoporosis, yes. So a couple of things came together at the same time. So yeah, that was the first one

Mark Jones: So you had trouble raising the money and pitching it the right way?

Larry Bock: Pitching it. But I learned everything I needed to do in that deal and then it became easier after that.

Mark Jones: But you ran into every other objection or every –

Larry Bock: Every objection. And all the ones before that, I was kind of tagging along and following Kevin and helping but I wasn't doing it myself. So this was the one I had to cut my teeth on and really do it myself and then the other one in that partnership was a company called ARIAD Pharmaceuticals.

Mark Jones: What were they doing?

Larry Bock: They are involved in intracellular signal transduction.

Mark Jones: That was pretty early on –

Larry Bock: Yes. Exactly. ARIAD still exists today, but it's had a rocky sort of history. And then at that point, some of the other technology partners did some other high tech things and stuff like that. So we – that whole fun was only about two years long. And then we went out and raised a venture fund called Avalon Medical Partners and that really was –

Mark Jones: Is this Avalon V?

Larry Bock: It's *[crosstalk]* called the Avalon V, but it was called Avalon Medical Partners.

Mark Jones: Okay. Well, tell me – and Kevin is telling me this is – Sandoz is involved in this.

Larry Bock: Exactly. So Kevin was out doing things and I had this idea for a medical – Avalon Medical Partners were a medically focused venture fund and I was calling some major pharma companies and literally I picked up the phone to call Sandoz and get the name of their chief technology officer.

Mark Jones: So you're trying to go to the technology people to sell them –

Larry Bock: To sell them. To get the funding and I called Sandoz in Switzerland and the chief technology officers picks up the phone and I said, "Well, I'm trying to get the contact information for Stephan Geutman." "Well, I am Stephan Geutman. What is this regarding?" So I pitched him on the idea on the phone and a week or so later, we're out there pitching them in person and they became pretty much the – they were the sole limited partner of Avalon Medical Partners which was – it was intended to be a $10 million fund over five years; basically, $2 million a year.

Mark Jones: Was it Medical Partners prior to Sandoz? This is what Kevin told me yesterday that Sandoz said, "Yeah, we'll go into this, but just therapeutics; that's what we want" –

Larry Bock: To do, yes.

Mark Jones: So wasn't Medical Partners prior to Sandoz?

Larry Bock: Well, the package that we were presenting to them was called Avalon Medical Partners but it was all biotech.

Mark Jones: That’s interesting. I mean, the prior fund had a couple of successes with tech companies, yes?

Larry Bock: Kevin had multiple successes prior to my joining him with various tech companies like Landmark Graphics, Spectrographics and things like that and the fund I joined him with, the biggest winners in that fund were Metrad and ARIAD and One Tech Company and then Avalon Medical Partners.

Mark Jones: So did those successes with ARIAD and – I'm sorry the other one was?

Larry Bock: Metrad.

Mark Jones: Metrad, yes. You guys got together and said this is where it's going? So let's just do bio?

Larry Bock: Yes, biotech was hot right at that moment. The interesting thing is right after we closed the fund, biotech went into a nuclear winter.

Mark Jones: Was this '87?

Larry Bock: It was about '87. And in retrospect – so Sandoz gave us this money to create two companies a year over five years and then pretty much at the end of that timeframe, we had ten companies created, and then the biotech market opened up and we were very lucky in that we had some ten great companies right at that timeframe, all of which were going public one after another.

Mark Jones: Phenomenal success in that.

Larry Bock: It was the best thing that Sandoz ever gave in their 10 million – I don't remember what it was, but it was on the order of a couple of $100 million that they got back from their 10 million in it.

Mark Jones*:* I'd like to talk more about each of the companies actually, but the idea from the beginning, how much input did Sandoz have on the project?

Larry Bock*:* Yes, so it was very interesting. So the good news was that Sandoz really – I mean they're Swiss and they kept us to the letter of agreements which was to create two companies per year, but we gave them certain rights that are probably not a good thing and they had a right to be a first round investor in a company. That was not a problem. They had a right to kind of a first look to potential product application, to potential corporate partnerships with the companies. That was a problem. So in each one of the deals, we pretty much had to negotiate to waive that right, and that kind of irritated them in the process.

And it really – and they actually stuck this guy in our office that was a Sandoz spy, who became a big VC himself, David – David [Schnell] I'll remember his name. He's at Prospect Partners. Anyway, so they had this spy and they're checking on us all the time and they made some incredible blunders, Sandoz did, in this sort of sticking to the letter of the agreement. One of them was with Onyx Pharmaceuticals. They said because Onyx was basically a spin-out of Chiron – which was kind of their arch nemesis at that time because Chiron was backed by Ciba Geigy – they were not used to do the fact that they were funding something that was spun out of Ciba Geigy and actually asked for their money back for that deal, which we got Institutional Venture Partners to do because they loved the deal and the amount of money that Sandoz left on the table just from those type of maneuvers was astronomical in retrospect.

Yes, so there was a little bit of a battle on each of the companies that got created in the fund. And then there were some companies that got started that didn't fit into the model that they didn't really want to be involved in. One of them was called River Medical. That was a medical device company. So it wasn't a therapeutic entity and that became – that ended up having a successful product, so successful it acquired IVAC, the big medical device company, which then was merged with IMED to become – I can't remember the name of the company now.

Mark Jones*:* All of this is really interesting, if we go back to the start of this fund as a kind of novel arrangement.

Larry Bock*:* And it was a completely different venture model, too, because we had these great economics and so the deal with Sandoz was that they put $2 million a year into Avalon, $1 million to be invested in the two companies, so half a million in each and $1 million to kind of operate, pay the salaries, and the running around money for the general partners of Avalon. And then we had this other fund called Avalon Bioventures with Institutional Venture Partners, where if we created a company, it automatically put a half a million dollars into that company.

Mark Jones*:* And that was okay with Sandoz?

Larry Bock*:* That was okay because they supported it. It just helps. But our economics were that we had a 50 percent carried interest. Most VCs have a 20 percent carried interest and they have to return a $100 million fund before they see anything. We only had to return like 1 million of that, 2 million each year before we saw anything.

Mark Jones*:* Well, how did you get that figure?

Larry Bock*:* Because Sandoz was not interested in the return on money.

Mark Jones*:* They wanted access –

Larry Bock*:* Access to deals and the way it was sold to them, it was a window on technology. And in the end, it became kind of funny because when the first checks started coming in, they go, "Well, you get a return on these things?" They didn't really get it. And literally, this $10 million investment – I can't remember numbers, but it was in the hundreds of millions – over $100 million now coming into the R & D group at Sandoz, not the pension fund. And also all these other arms at Sandoz are trying to grab at the money. So it was a very successful financial deal for them. They ended up not being a successful source of products but that was because they chose not to do it. They ended up being a successful source of product for other pharma companies.

Mark Jones*:* This fund and the previous fund, there were four people involved doing tech. Is this just you and Kevin?

Larry Bock*:* It's me, Kevin, and a guy named John Hendrick, who's kind of the chief financial officer of it. Yes, so it's just the three of us and we had a couple of associates that came and went.

Mark Jones*:* So it's mostly you and Kevin who are searching out the deals and evaluating them and doing all that stuff. So where did you start? What was the first company?

Larry Bock*:* The first company I did was Neurocrine Biosciences.

Mark Jones*:* That was down here; right?

Larry Bock*:* That was down here. The second one was –

Mark Jones*:* Well, tell me about that. How did that come about? Howard was in that, wasn't he?

Larry Bock*:* Howard was an investor in that, yes. Howard was an initial board member and investor in that and so was Harry Hixson, who was an Amgen kind of fame. It was based upon the work of a guy named Wylie Vale at Salk, who later on did another company I was involved with: Acceleron, which is a recent public company.

Mark Jones*:* So this is your carrying on, you're interested in doing brain stuff?

Larry Bock*:* Yeah, it was a neuroendocrinology company, so the brain immune system kind of connection. And the technical founder was a guy named Wylie Vale at Salk and another one named Larry Steinman, who did multiple other companies out of Stanford.

Mark Jones*:* Yeah, so Sandoz took a look at this and said, "Yeah, okay"?

Larry Bock*:* Yeah, they didn't really have the right to sort of say "we weren't going to do" – we just had to create companies and I don't think Sandoz had – did they have any deals with? – I can't remember if they had any specific deals with Neurocrine. I don't think so. But yeah, that was the first one that got funded. And oh, I should drop back. In ARIAD, when we formed ARIAD, it was an interesting financing thing in that the first major venture investor, besides Avalon, was Kleiner Perkins plus David Blech. So the idea was Kleiner Perkins and Avalon put a small amount of money in it and then we would do one of these Reg D private placements as a way of getting the company well financed right at the beginning through David Blech. And that became the largest Reg D private placement at that time in ARIAD and that was the strategy we used in Neurocrine again. So it was David Blech was part of that, as well as Kleiner Perkins.

Mark Jones*:* So you got that going?

Larry Bock*:* Got that going. The next one was a company called Pharmacopeia that I did and meanwhile Kevin was doing Onyx as his first company and then Sequana – no –

Mark Jones*:* Sequana was not till –

Larry Bock*:* Onyx – Kevin did three companies in Avalon: Sequana, Onyx, and Aurora Biosciences. And I did Neurocrine, Pharmacopeia, Idun Pharmaceuticals, Caliper Technologies.

Mark Jones*:* Okay. Caliper – well, Kevin told me yesterday Sandoz is only interested in therapeutics, but Caliper – what did Caliper do?

Larry Bock*:* Was a lab on a chip, microfluidics lab on a chip technology.

Mark Jones*:* Did it take any work to persuade them?

Larry Bock*:* No. I think they were fine with that. Oh, another one, Argonaut Technologies and before Caliper.

Mark Jones*:* Okay, tell me a little bit each of those and how they developed?

Larry Bock*:* Pharmacopeia was the most fun, easiest project I ever did. It was a combinatorial chemistry area. Nothing ever went wrong with Pharmacopeia. Everything went great, got – signed lots of corporate partnership deals, went public. It was just a gem to work on. Argonaut was somewhat of a spin-out of Pharmacopeia in that it did, it also worked in the combinatorial chemistry area, but it automated it within instrumentation. So it was not as big an idea but kind of a spin-off of Pharmacopeia. And then Caliper Life Sciences was also a total fun project.

I had a slow start in that we had to do a couple of mergers with some other companies but once it got going, it was a big success and it was a valuable one for me, financially valuable one. It was the most financially valuable one for me because it got pulled along with this whole Internet boom at the time. And Kevin had left Avalon to become the full-time CEO of Sequana. And so basically Kevin and I and John shared things: 40 percent, 40 percent, 20 percent. And then Kevin left. So Kevin's 40 percent was shared by John and I in Caliper because he had left to do Sequana and that ended up being a huge financial success for me.

Mark Jones*:* Well, what did that mean at that point when he goes to be CEO of Sequana?

Larry Bock*:* It was near the end of the Avalon fund. So it was kind of a shame thing because – I mean, he totally believed that this genomics thing was the way to go, made a lot of sense, and probably the best thing for Sequana to have him as a CEO, but it was a good thing for me in retrospect from a financial standpoint.

Mark Jones*:* But you guys had great success by that time, so this is –

Larry Bock*:* Yes, everything all happened at once.

Mark Jones*:* So you started the companies but the success with the companies –

Larry Bock*:* The success with the companies all started around that 1992 timeframe, I think. It's just one after another. Either they were acquired or they went public and so Onyx obviously went public, Neurocrine went public, Pharmacopeia went public, Aurora went public and then was acquired by Vertex for a lot of money in a very short period of time. The River Medical thing happened. There was no failure or anything within that Avalon fund. They were all huge financial successes.

Mark Jones*:* Which is kind of phenomenal.

Larry Bock*:* Yes. No, it was – it was a combination between being smart and a lot of dumb luck.

Mark Jones*:* So what are your thoughts personally? Kevin is going to go off and go do something else. You had so much success. That's all taken care of and then –

Larry Bock*:* I'd like to think that Kevin and I kind of grew apart, but that in retrospect, we probably should have stayed together. He went on to Sequana. I finished out the Avalon fund with Caliper and then at that point, I went in, raised the funds just with IVP and Kleiner Perkins to do one start-up in the bioinformatics area. They ended up funding a company called DoubleTwist that they were more interested in what we were doing.

Mark Jones*:* So you didn't get it off the ground?

Larry Bock*:* Well, so DoubleTwist ended up buying this entity that we were doing, I think, for about $750,000. So it was good for us. DoubleTwist eventually went under, but we were lucky because we got cash out right from the beginning. So that was success. And then I went on to do another company called Illumina before changing fields completely.

Mark Jones*:* Well, Illumina was obviously another huge thing. So tell me the Illumina story, the beginnings of Illumina in detail.

Larry Bock*:* So Illumina had an interesting beginning. What we were actually looking at was not a genomics company. It was a sensor-on-a-chip idea and it was the ability to put highly – lots of sensors on a chip all at once. Kind of like the Affymetrix kind of idea but not necessarily DNA. Just to be able – the ability to detect on one chip many, many different things. And we had come across this technology out of Caltech that we thought was the be-all and end-all.

Mark Jones*:* Who was it?

Larry Bock*:* It was a guy named Nate Lewis, big name guy at Caltech. Nate did not want to do a company with us. There was somebody else approaching him and he wanted to do a company.

Mark Jones*:* Do you know who that was?

Larry Bock*:* It was a company called Cyranose it basically was a nose on a chip and I don't remember who the original investors in it were. I think it was – not Oxford Bioscience Partners, but Oxford Capital Partners, the other Oxford but I may be wrong on that. And our feelings were hurt.

Mark Jones*:* You had gotten to a certain stage –

Larry Bock*:* We were so convinced we wanted to do a company in this field based on this technology and so forth and –

Mark Jones*:* When you say we, who was it? It was John –

Larry Bock*:* Me and John Stuelpnagel.

Mark Jones*:* How did you get hooked up with John?

Larry Bock*:* So John was working for me as a summer intern and he was at UCLA and he was in the same program that I was originally when I did the Burr, Egan & Deleage thing and I always would hire summer interns out of the UCLA system and then we worked on this bioinformatics company and I really felt John was great. I convinced him not to go back to UCLA to finish his second year and to work full time here and he convinced UCLA to let him work here, take a leave – well, not even take a leave. Do his – almost his whole thing remotely. And he still ended up being valedictorian of that class. So yeah, he came –

Mark Jones*:* You weren't giving him enough to do.

Larry Bock*:* Well, I don't know, he's a pretty hard worker. So the Cyranose thing– Nate Lewis and this other guy who I had done some other project with, Bob Grubbs, who was – who I knew well because he was a founder of Pharmacopeia and he was with Nate Lewis and they just, they didn't –

Mark Jones*:* So he was Caltech?

Larry Bock*:* He was also Caltech. He's a Nobel laureate in chemistry at Caltech. So they didn't want to do it.

Mark Jones*:* You had this experience with Pharmacopeia. That was a great success; right? Everything worked.

Larry Bock*:* Yes.

Mark Jones*:* But you couldn't get –

Larry Bock*:* No. They really wanted to do it with the other group. I think he regrets it. But let's see. Oh, okay, so we then started looking for competitive approaches to the Cyranose one and approached this guy named David Walt, who actually I had seen years and years ago because Avalon looked at one point, doing a deal with David Walt based on this fiber optic technology he had, but it wasn't developed enough. And that was probably five or six years before and at this point, it had gotten well enough advanced. So we used David Walt's technology as the basis of a new company and it wasn't going to be focused on genomics per se. It was actually going to be this sort of nose on a chip technology.

Mark Jones*:* What kind of particular applications did you have in mind?

Larry Bock*:* It could be anything – industrial, where you were wanting to detect – where you didn't really know what you were trying to detect.

Mark Jones: Because you could detect…?

Larry Bock: You could look at a whole signal and because you were taking so many inputs and everything had a unique signature, you could then isolate what it was. It was a general idea. And so we licensed this technology from David Walt. And meanwhile, there was this guy that we were trying to recruit to Caliper, who was a genomics, really smart genomics guy, out of Affymetrix named Mark Chee and he wanted to do his own thing and we exposed him to the technology at Illumina and he said, "Well, you know, this could be used for genomics."

Mark Jones: So none of the chemistry guys had been thinking in those terms?

Larry Bock: At that point Mark Chee was probably the person who kind of thought this could be used for genomics and came up with this unique way of tagging these beads so that you can go back and figure out what bead was what like at some later point. And there was this other guy named Tony Czarnik who had done another combinatorial chemistry company called Irori, who we recruited. That was the original team of Illumina.

Mark Jones: Those are the technical people?

Larry Bock: Those are the technical people. And then Jay Flatley came in about probably, I guess, about a year and a half after that, a year and a half after that. John was the acting CEO prior to Jay coming in.

Mark Jones: So recruiting, how did you select Jay Flatley?

Larry Bock: He came through a search firm. So I don't remember which one. His name came up through a search firm and there weren't a lot of analytical instrumentation companies at that time, but molecular dynamics was one of the more successful ones. So he had come into that method. And yeah, so that's how Illumina got started.

Mark Jones*:* Now that's the beginnings. And how long did you stay involved?

Larry Bock*:* Only about two and a half years. I got a medical condition, had to take off to get some treatments. At that point, let's see – no, I ended up doing – I ended up switching fields completely and decided to go into – start something in the nanotechnology field called Nanosys and then after that, I kind of called it quits and haven't been doing anything for 12 years.

Mark Jones*:* Well, CW Group, that's the successor to Avalon?

Larry Bock*:* Right – no, so Avalon – the successor to – well, there really wasn't a successor to Avalon. Avalon kind of stopped at the end of Avalon Medical Partners and then Kevin restarted it again to create Avalon VI several years later. Catalyst BioVentures was the thing that we created, this bioinformatics company. And then – so that got acquired and right then, I got approached by CW Ventures, which is a long-term, long time healthcare venture fund, about joining them as a partner. And John joined as an associate at that time and Illumina was the first company that got created in that partnership.

Mark Jones*:* Okay. So Nanosys – how did you get interested in nanotechnology?

Larry Bock*:* Biotech to me started getting too crowded. It used to be you form an advisory board, find a scientific visionary, you have a company.

Mark Jones*:* So that was your model from the beginning?

Larry Bock*:* Yeah.

Mark Jones*:* And you were finding that didn't –

Larry Bock*:* That wasn't working in biotech anymore. I mean, some of the last companies I did in the biotech arena, we ended up having to get lots of license agreements. And Idun Pharmaceuticals, I think we had about close to 20 license agreements just to start up the company. So it was becoming more and more work and then they were more and more –

more and more people were doing the same types of companies at the same time. So I just went to look for something, new territory.

Mark Jones*:* So things had changed at universities where people are doing this basic research?

Larry Bock*:* Yeah, well, and the same professors were starting multiple companies over and over again and Leroy Hood and Lander, Eric Lander and Bob Langer. It just – it was neither virgin territory where it could be done. And this was the early days of nanotechnology and it offered all the – it had all the same elements of the early days of biotech, but without that kind of competitive feel to it.

Mark Jones*:* How important, in this whole thing – how important for you is sort of the technical sweetness of the –

Larry Bock*:* Everything and the people – those are the two most important things.

Mark Jones*:* But are you really jazzed by the technology?

Larry Bock*:* Oh, yes, absolutely. I was mesmerized by the technology and everyone. I thought "Wow, there's never going to be a better technology than this one," and sure enough, two years later, there is something.

Mark Jones*:* So Nanosys, what did they do exactly?

Larry Bock*:* It was a platform technology company in the space of what were called inorganic – inorganic nanoparticle semiconductors and it took Nanosys a long time to figure out what the best application of that technology is. And Nanosys is just at the verge – I think they had their second profitable year this year. They are becoming the technology that provides most of the color in most flat panel displays.

Mark Jones*:* Okay, well, you say you retired, but in my notes, I've got all kinds of stuff here *[crosstalk]*.

Larry Bock*:* I retired but I'm still a venture partner of a venture firm called Lux Capital. I still invest in things through that but after Nanosys, I took my family abroad for two years for fun and I checked out. Then I came back and I completely changed. I'm now focused on this science education world.

Mark Jones*:* Yeah. When you checked out for two years, what was that experience like? My question is when you come back, have you really checked out?

Larry Bock*:* Well, no, we went to London to live on a gap year for my younger daughter's gap year before college. And I was miserable when we got there because what was I going to do with myself all the time? And about three months later, I didn't want to move back.

Mark Jones*:* What did you find to do with yourself?

Larry Bock*:* We just traveled and had fun.

Mark Jones*:* Okay, great. And you got involved with Venrock at some point?

Larry Bock*:* I'm a limited partner.

Mark Jones*:* Oh, okay, you're a limited partner. But you had seeded some things. 2003 is Acceleron.

Larry Bock*:* Yes, Acceleron.

Mark Jones*:* Why did you do that one?

Larry Bock*:* Because Wylie Vale was a founder of it and I did Neurocrine with him.

Mark Jones*:* So he's a friend?

Larry Bock*:* A friend, yes, but I was not an active investor in seed.

Mark Jones*:* And Bock Family Ventures, that's 2006. There's a bunch of companies in there.

Larry Bock*:* Yes. In fact, some of these things keep coming back, like Conforma is a company there. Larry Fritz, the guy I originally did Athena with, I did another company with him called Idun Pharmaceuticals and then I did Conforma with him, where he really was a founder of Conforma. I was just an investor. So there are a lot of examples of people from the past.

Mark Jones*:* Coming back.

Larry Bock*:* Coming back yes, multiple times. In fact, there's one in there called Protia that is –Tony Czarnik was one of the four original founders of Illumina and he got crosswise with some of the other founders of Illumina and they had a falling out. In fact, there was a wrongful termination.

Mark Jones*:* What was the issue? Was it a control issue?

Larry Bock*:* No, I think John just didn't like him, didn't think he was performing. So they fired him, but they probably didn't fire him the right way. So he – Tony won like a $7 million lawsuit against Illumina, which is a big amount of money for Illumina at that time, but then he went in and founded another company called Protia and approached me to be a scientific advisor to that.

Mark Jones*:* A scientific advisor?

Larry Bock*:* Yes. I mean, an advisor to that and it was a brilliant idea and I never heard from Tony. He called me up and asked me a few questions every once in a while and the next thing I know I'm getting this K-1 that have all this quote/unquote, income, and I hadn't seen any checks and I called Tony. I said, "Well, why am I getting this K-1 on Protia?" And he had just sold Protia – a tiny sliver of Protia to Celgene and a company called Deuteria.

Mark Jones*:* So I guess around 2007, is that when you start to get into the education stuff: San Diego Science Festival?

Larry Bock*:* Yes, exactly.

Mark Jones*:* So tell me about that.

Larry Bock*:* When I was abroad in Europe, I saw the science festival as opposed to a science fair. They were more of a celebration of science and engineering, more like an art or music or film festival than a science fair competition poster session. And I thought, "Well, that's a cool idea." And then I heard this guy give a speech, Dean Kamen who is the inventor of the Segway and he said this quote that just really resonated with me: "You get what you celebrate." So you celebrate Britney Spears and Lindsay Lohan and you generate a lot of them, but we don't celebrate science and engineering.

I wanted to put on the largest celebration of science and engineering. So I created this event here in San Diego called the San Diego Science Festival and that went really well and my main sponsor of that came back to me afterwards and said – Lockheed Martin said, "Hey, let's do it in Washington, D.C., and do it as a national event." So that's really what I've been working on for the last five years.

Mark Jones*:* So you've been involved in every one of those? That's your thing?

Larry Bock*:* Yes. We just had our last one about four weeks ago and we had 325,000 attendees over a weekend to it. So it has grown and grown and grown.

Mark Jones*:* And you have fun doing that?

Larry Bock*:* Yes. I mean, I'm not getting paid. *[Laughs]* I better be having fun. There are times when I'm not having fun.

Mark Jones*:* It seems it could be a logistical nightmare.

Larry Bock*:* Oh, it is. It is a huge – we are the single largest events in the Washington Convention Center's history. This year on our sneak peak day, we had close to 50,000 kids come and if you take – and that amounts to about 800 school buses. So 800 school buses and you take the length of a school bus, it's about five miles worth of school buses. Well, that's a huge logistical thing getting into Washington, DC. Lots of challenges.

Mark Jones*:* And what do you want to do with it? I imagine it's evolved over time a bit? What have you learned about reaching out?

Larry Bock*:* It's kind of a grassroots type of thing. We have close to 1,000 organizations that participate in it, including companies like Illumina and some of the other companies that I've been involved with. But it's just to get kids excited about science and engineering. And now Lockheed has come back and upped their ante again. So they make it harder and harder each time to not do it again.

Mark Jones*:* Well, I know Ian was very pleased to have the opportunity to do something for it.

Larry Bock*:* Who was that?

Mark Jones*:* Ian with Life Sciences Foundation.

Larry Bock*:* Oh, with Life Science Foundation. Oh, yes, they presented. So he would know what it was like. If it was a success for them or not, I don't know.

Mark Jones*:* He was saying he got Francis Collins to show up.

Larry Bock*:* Yes, Francis was there and Francis is the exact icon of the type of person that we want to have at the event. He's really good in inspiring kids and then he pulls out his guitar and sings science rock songs.

Mark Jones*:* Yes, good. I see that you also did something with, or are still doing something with CONNECT – you're helping?

Larry Bock*:* I've been on the various CONNECT Springboard's stuff over time. And I was really much more involved with CONNECT when Duane Roth was still there because he was instrumental in helping me get the San Diego Science Festival going.

Mark Jones*:* What's going on with CONNECT? Do you have any idea?

Larry Bock*:* I don't.

Mark Jones*:* Cambridge. This is in England, or is this in Massachusetts?

Larry Bock*:* No, Cambridge, England.

Mark Jones*:* Doing the same thing over there?

Larry Bock*:* Well, I didn't do that. That's the one I saw in England that I thought was a good idea that I wanted to bring that idea back.

Mark Jones*:* Yeah, I got the note here. Okay. Anything else?

Larry Bock*:* Nope, that sounds like it.

Mark Jones*:* Okay. Well, I appreciate.

Larry Bock*:* I hope my stories were consistent with Kevin's. *[Laughs]*

Mark Jones*:* Sure. And there's so many companies here. I hope if we could get back with you at some point, to maybe ask specific things about specific companies to help our historical research efforts. That would be much appreciated.

Larry Bock*:* Well, it's interesting. These companies, they – some of them, like Athena, do not really exist anymore. So it's hard to even though what happened with a lot of these things. Onyx now is part of Amgen. So they disappeared. Caliper is part of PerkinElmer.

Mark Jones*:* Yes, well, it's interesting. I'm talking about public companies in these cases but even over the course – I mean, I think it was just a few years ago, right, that the biotech industry started to break even?

Larry Bock: Is that right?

Mark Jones: Yes, in the aggregate. So there was a lot of money lost along the way, but those firms that were acquired, they've got technology. I don't know if there is any way to really assess the value of what came out of the whole thing.

Larry Bock: But it is such an amazing thing. I remember going to that first H and Q Conference that I went to. It was tiny.

Mark Jones: Were you there for the first one?

Larry Bock: Not for the very first one but – or even the second or third one. And I mean, it was tiny and now it's *[crosstalk]*, so I don't even want to go near that place. It's such a nightmare. Or BIO. BIO is a good example. That thing was like nothing. In fact, I remember ABC and BIO. There were a couple of these different associations being formed sort of simultaneously. Nobody thought they would ever get critical mass to really be an industry association. Now you go to BIO and it's a massive event for San Diego.

Mark Jones: Well, that's interesting. That was the talk at the time that there wouldn't be a critical mass?

Larry Bock: Oh, sure. I think one of them was IVC, Association of Biotech Technology Companies.

Mark Jones: There was IBA and ABC.

Larry Bock: ABC.

Mark Jones: Both of the two.

Larry Bock: Yes, and one of them didn't succeed. I think it was ABC. Yes, but one really focused on the small companies. One focused on the big, and the one that focused on the small companies wasn't really going to succeed or whatever. And I see that same thing happen in the nanotechnology, for these industry associations to get enough critical mass. It will happen, but it take a while.

Mark Jones: Well, it's interesting you really did check out. You're a little bit of a rarity in that respect. I mean, a lot of these guys won't check out.

Larry Bock: Howard, I think checked out.

Mark Jones: Yes, I guess.

Larry Bock: Kevin checked out a little bit. I mean, he started doing these international investing for a while before he came back into the high tech world.

Mark Jones: Well, maybe it's something about San Diego, but I think up in the Bay Area and Boston, it is so hard for people to check out.

Mark Jones: Brook Byers checked out for a while and then –

Mark Jones: Did he? Well, he was always officially sort of *[crosstalk]*.

Larry Bock: Well, he left and wasn't doing anything active for a while and then came back.

Mark Jones: I didn't know that.

Larry Bock: I'm not coming back. *[Laughs]* I'm having too much fun.

Mark Jones: Good.

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.