

**Securities and Exchange Commission Historical Society**  
**Interview with Bill Lupien**  
**Conducted on September 12, 2017 by Kenneth Durr**

**KD:** This is an interview with Bill Lupien for the SEC Historical Society's Virtual Museum and Archive of the History of Financial Regulation. I'm Kenneth Durr. Today is September 12th, 2017. We are in Coeur d'Alene, Idaho.

Well, let's talk about your career.

**BL:** All right.

**KD:** I want to get back to the beginning. I know you came from Chicago and moved out west fairly early.

**BL:** I moved out when I was sixteen, with my folks. Our family moved from Chicago in the summer of '58. What had happened, my father was president of a chemical company in Chicago that ended up getting into a proxy fight the year before, and he was on the losing side, fifty-one to forty-nine, believe it or not, percent. So he was out, and he decided to look around to buy a company in the Midwest area but didn't find anything that appealed to him. And Christmas of '57, he said to our family, what would you think about moving to California? And my brother and I – I have a younger brother, and we both said, "Yeah!" and my sister said no because she had a boyfriend. (Laughter.) So my dad says, "Well, I think the vote's four to one."

**KD:** So you came to school at San Diego State, right?

**BL:** Well, actually, I finished high school in Pasadena, one year. I got out here and went into my senior year in California. And then I went to Pasadena City College, actually went for a year. I dropped out of college. I'm kind of a little bit like some of the other crazy inventors. I didn't think I needed college, to be honest with you, and I was bored. Exceedingly bored. So I dropped out and I moved to Denver with a fraternity brother of mine. Couldn't get a job. It was in the middle of a recession, 1960. And my fraternity brother got a job as an accountant with Hilton Hotels. They had just opened. The problem was he wasn't an accountant. So I would help him at night on his job, because he had the job and I didn't have one.

Eventually, I got a job. That was quite a tale, but I won't waste the time on that. And my job was working in a battery manufacturing plant for missiles. This is very early on. It was at Ford Aerospace, and we were making silver zinc batteries, and that was interesting to me because – of course, I had a very menial job. I worked on a plating tank. I don't know whether you know what that is. It's not nice. You wear a rubber suit, rubber gloves, and goggles, of course, and you're working with 440 volts and bad chemicals. You've got potassium hydroxide, which isn't so bad, but you've got various assets and so forth to etch and plate this stuff.

So I did that for a few months and then after the factory would close at 3:30, I went into the chemical lab and there were nine PhDs in chemistry working in there, and I just volunteered. I didn't ask to get paid or anything. I'd just work with them until maybe 5:00 or 5:30 and then leave. And after a month or two they said, "Hey, would you be interested in working in the lab here?" And I said, "Well, I don't have a degree in chemistry." They said, "Oh, no. For what we want, you don't need a degree." I said, "Well, what do you want me to do?" And they said, "Well, you can clean test tubes and clean up our experiments and just help us set up experiments." I said, "Okay, yeah, I can do that."

So I did that for about nine months, and I worked – I guess it was eight months – worked with all PhDs in chemistry, various types, which was fascinating. Very quickly, they let me – remember, now, my father was president of a chemical company, so I had probably the best chemistry set any kid ever had. I really did. Because I used to go in Saturdays with him when he had to go to the office and then I'd go into the chemistry lab and I'd tell the guys what I needed, and then they'd give me stuff to take home. At any rate, I worked with them, actually developed some of the experiments that they wanted done for the Air Force. It was a very fascinating job. But I realized – they kept saying to me, "You've got to go back to college." I said, "I hate college." They said, "I know, but you need that degree. You've got to go back."

So finally, I realized I had maxed out on my income very quickly. They said, "We can't pay you any more. You're already hitting the top." And of course I was going nowhere.

And so I called my dad up and I said – my brother and sister both were in private universities, and it was expensive and they were paying for it. There weren't student loans in those days. And I said, "I'd like to go back to college. Could you help me a little bit?" He said, "Well, what do you have in mind?" I said, "Well, it would help if I'd get \$100 a month." And he said, "Yes, I can do that." So I got \$100 a month, which basically I shared an apartment with two other guys and the apartment was seventy-five a month, so we each contributed twenty-five, and then the other seventy-five was for food and fuel to get around and books and whatnot, although I still worked. I worked part time while I was in college, which was okay with me. I always worked. I've been working since I was twelve, because I like to work. I mean, that's just an important thing for you to understand. I mean, I'm going to be seventy-six next month. I'm still working, not because I have to. I love it. It's intellectually challenging. It keeps me, I think, younger, thinking younger, and active.

So I eventually went to San Diego State, and I went actually – I talked to my dad. I had been an ag major, believe it or not. Remember, I grew up just outside of Chicago and I worked on farms in the summertime, and loved it. And something got in my head that I wanted to be a cattle rancher. And in particular, I wanted Black Angus. Don't ask me why. Just as a kid, I was thinking that. So that was my major in the first couple of years. Now, there's a funny thing about that. As an ag major, you take all of the heavy science classes, so I had, of course, chemistry, physics, biology, botany. Oh, I've forgotten all the different – you know, these are the so-called hard classes for a guy in business school

or on the business side of things. No business guy would take those classes if they could avoid it. I took them all, and I liked them.

And then I came back and my dad says, "I know you've got your heart set on being a cattle rancher." And I said, "Yes, I do, Dad." "Well," he said, "I've got bad news for you." I said, "What's that?" He says, "Cattle ranches are expensive and we don't happen to own one in the family." And I said, "Well, I'll work as a ranch manager and save my money and buy a ranch." He said, "Son, it doesn't work that way. They don't make any money. If you just want to do it for the lifestyle, then keep doing that." I said, "No, I want to own one." He said, "That won't work." I said, "Well, what do you recommend that I do?" And he said, "I think you have a mind for business. Go into business, make your money, then buy your cattle ranch." And you'll see later that's what I did.

So I said, "Well, what should I major in?" And he said, "Well, I'd recommend marketing." Now, you have to understand my father went through the Depression, so I'm right after the Depression, basically, and he's saying, "There's one job that you could always get in the Depression." And I said, "What's that?" He said, "Salesman." And he said, "That's the point of the spear." I said, "What do you mean?" He said, "That's where everything starts. You don't make sales, nothing else happens behind it." So I thought, oh, okay. So that was my objective. I went in as a marketing major.

I took a financial class as an elective, and I happened to be very, very fortunate to have as my professor the dean of the business school. He only taught two classes: one

undergraduate and one graduate class. And by chance, I happened to get him in this undergraduate class, and I just loved it. He gave us a mock trading account, and I ran that \$100,000 thing into almost a quarter of a million in one semester. And we had to clock the trades in. You couldn't cheat. We had to go into his office and clock in our trades. So I aced that class and he asked me if I wanted to be his reader, which I didn't even really know what that meant. And I asked him, I said, "Well, what does that mean?" He said, "Well, you'll read all the papers and score them and work with me on that and so forth and so on." I said, "Well, yes, that sounds like fun."

**KD:** Sort of like a graduate assistant.

**BL:** Yes, exactly. But I wasn't a graduate student yet. So I got into my senior year and I knew I couldn't go to graduate school. We had just gotten married and I wanted to get out and work. So I asked him if I could audit one of his graduate classes, which was a class called "Financial Analysis," and it was a terrific class. And he said, "No, I don't let anybody audit a class." He said, "Why do you want to audit it?" I said, "Well, I can't go to graduate school, and you're offering it in the graduate business school. But I'd really like to take that class." And he said, "Well, if you'll take it for a grade, I'll let you take it." I said, "Well, I don't mind taking it for the grade. That's not why I wanted to audit it. That's fine, yes, if you'll let me in there."

So I get into this class with eight graduate students, funny thing happened. The first class we get to, eight guys have slide rules, and I don't have one, don't know how to use one,

and he throws up some question and they all go (zipping sound effect) and they've got the answer. So I went, well, I've got to learn how to – this is before calculators. And so I went back to my folks' house in Pasadena – it's about a two-hour drive from San Diego – and I said, "Dad, you used to have a slide rule, didn't you?" And he said, "Yes." And I said, "Would you get it out and teach me how to use it this weekend, because I'm getting beaten to the punch here every time there's a question." He said, "Sure." So he teaches me how to use the slide rule over the weekend, I take it back. Next time I'm competing with these guys.

He did the case study type of teaching, and he had been a student at one time of Benjamin Graham. So he used Benjamin Graham's book as the class book, which was terrific because we learned every financial ratio you could know, every way to analyze a company, every way to tear apart the balance sheet, the income statement, and everything else. How you read an annual report, like start at the back, not at the front.

**KD:** I've heard that.

**BL:** It's true. Read all the notes. You know, the stuff that no one wants to read. At any rate, he was a phenomenal professor, just a phenomenal guy. So I graduate – well, let me back up. I went to him and I said, "You know, I like finance even better than marketing. I'd like to change to finance." He said, "I'll tell you what. You give me summer school and one semester, and I'll get you a dual degree: a degree in marketing and a degree in finance." I said, "Yeah, I think I can do that," which I did. So I graduated a little bit late,

but I ended up with two degrees, and never regretted it, by the way. So my background is a funny one. That's why I wanted you to understand. I got the science part, which at first you think, where are you going to use that? Then you've got marketing and sales, and then you've got the financial analysis part. Later in life, I found out those are important.

**BL:** So anyway, the combination was a great combination. Much later, of course, now I'm in business and one of the first things we have to analyze is things about semiconductors.

**KD:** So you had a little bit of a jump on that.

**BL:** I did. I had quite a jump on it, actually.

**KD:** So did you go into a brokerage firm out of college?

**BL:** I did. I went to a very small firm. You'll laugh at this. We moved back to Pasadena. We're both from – well, she grew up there, in that area. Moved back to Pasadena, and I went to a pretty good-size firm because I had a friend there. He was the assistant manager. He says, "You'll get a job here. I'll introduce you to the manager." So I had this interview with the manager, quite long, and at the end of it he says, "Well, I can't hire you." I was shocked. I said, "Why not?" He said, "You look too young." That's the truth. That's what he said: "You look too young." And I said, "What difference does that make?" He said, "Pasadena has a lot of little old ladies that come in here, and we couldn't have you sitting in here. They'd wonder who you were." I said, "I can do it. If

you'll give me one of those desks you have out there and a phone and some cards – you don't have to pay me – I know I can do it.” He said, “No.”

So I went to my friend, who was the assistant manager, and told him what had happened. He said, “That's crazy. You know more about the market than I do.” And I did, by the way, because I had been studying it and trading for some – while I was in college, I traded. And he said, “Well, if you don't care what size firm you want to go to work for, I've got a guy over in Arcadia,” which is next to Pasadena, “and he'll hire you.” I said, “Well, send me over there.” So I went over there and interviewed – it's a three-man office, three-man company. Now, there was a huge advantage to that that first you don't see, and that is when you did get an order, you had to execute the order yourself, okay? So if it's an over-the-counter stock, you'd call around to the three different brokerage firms and get their quotes and do your trade. If it's a listed stock, you call the exchange floor, put your order in, so forth and so on.

Right away I'm beginning to see the inner workings of trading which the average retail broker never sees. They're not allowed to see it, frankly. You know, you have to give that to the trading department, they take care of it, and you're sheltered from all that. But I very quickly learned that and thought, hmm, that's the area I'm really interested in. And I started to trade pretty actively from my own account. And while I was working there, the guy that owned the company called me in his office one day and he said, “Hey, one of my clients owns an apartment building here in Arcadia. He's looking for a

manager. Would you and your wife be interested in managing it?" And I said, "Well, I don't know. Maybe." And he says, "It's free rent." I said, "I'll go take a look at it."

Now, we were paying \$125 a month at that time in Pasadena. The rent there was \$350 to \$375, so you can imagine the differential in quality. It had a swimming pool, it had all the things you'd like to have but we didn't have. I drove by it on my way home and it looks pretty good, and I told my wife. She says, "Well, I don't know anything about managing an apartment house." I said, "Well, there's not too much to know. If there's a plumbing problem, call the plumber; if there's an electrical problem, call the electrician; and collect the rent." So we applied for that and got it. So we went to where we were paying no rent.

And I should back up. When we first got married, I said to my wife, "We are going to save \$50 a month every single month as a minimum. If we can save more, I want to." Now, she was the breadwinner. She was making \$350 a month. That's \$350 gross, you understand. So you've got to take your Social Security out of that and your taxes and everything else. Anyway, we always saved fifty or more. We were tight, because I wanted capital and I recognized that capital was how you play the game. No capital, you don't play it.

**KD:** So this being a landlord kind of helped –

**BL:** It helped a lot, because that's \$125 bucks every month that I wasn't shelling out.

**KD:** Were you involved with the Pacific Exchange in that brokerage job?

**BL:** No. I called the Pacific to enter orders, so I was familiar with some of the guys on the floor, but I hadn't been down there.

**KD:** What was the name of this small firm that you were in?

**BL:** It's called Corporate Securities.

**KD:** How long were you with that firm?

**BL:** Well, that's the next part of the story. I saw that there was a gentleman in the apartment complex after we were managing it that drove a Rolls-Royce that came home in the early afternoon and then went and played golf. And I said to my wife, "What does the guy in number ten do?" She said, "I don't know, but his brother lives here also. Why don't you ask his brother what he does?" So I did. I knew his brother, in a different apartment. I went over and I said, "What does your brother do?" He said, "Oh, he works on the stock exchange floor."

So, now, here's a point that is a turning point in many people's lives. I could have decided, well, I'm not going to go talk to the guy, but I went and rang his doorbell. And I said, "I'm the new manager, I wanted to introduce myself, and I guess we're

competitors.” And he looks at this kid, meaning me. He said, “I don’t think so.”

(Laughter.) “But come on in. Have a drink.” And I wasn’t even drinking in those days, at all. So he said, “Well, you want a Coke?” I said, “Okay.” So, came in, talked to him. It must have been two hours. Just a fascinating guy. And next he said, “Yes, you can come over anytime you want.” Because I said to him, “Give me ideas that I can work —” We didn’t have a research department, so he was giving me ideas.

I had been coming over to his apartment talking to him almost every evening, and I guess about two months later, maybe three, I can’t remember exactly when, he called me on a Saturday morning and he said, “Can you come over? I want to talk to you.” And I said, “Sure.” I came over and he said, “I fired my clerk yesterday. Do you want his job?” And I said, “Yes.” So he said, “When can you start?” I said, “Tuesday. I’ll go in Monday and resign.” And he says, “Okay.” So I did. I resigned and went to work on Tuesday.

Now, the funny thing is I come back and I tell my wife and she says, “Oh, good. I know you really think you like that. How much are you going to make?” And I honestly didn’t even ask. Now, I was making about \$1,000 a month as a broker, and she said, “Well, how are you going to find out?” I said, “Well, I guess when I get my first paycheck I’ll find out.” And she said, “Okay. Seems unusual, but okay.” So my first paycheck, I get it and it’s \$400.

**KD:** Oh, gee.

**BL:** But I didn't say anything. I had to bring it home and give it to her. I said, "It doesn't make any difference." She said, "What do you mean, it doesn't make any difference?" I said, "What I make right now is not the key. I'm learning. Every day, this guy is teaching me."

**KD:** Was this Mitchum, Jones & Templeton?

**BL:** Yes. He was one of the specialists for Mitchum – they had five specialist posts, and he had the biggest one and the best one. He'd been chairman of the board of governors twice before, and he was very late in his career. He had no children, so over time, not officially, but more or less, he adopted me. I would say he invested his time and energy into teaching me. So I was working down there for about a year and a half, and I got drafted into the army. It's funny because I thought I wouldn't be drafted because Lyndon Johnson said if you're married before this date, you won't be drafted. Well, we were married before that date so I wasn't even thinking about being drafted. And so I called the draft board and I said, "I think you made a mistake." And she said, "What kind?" I said, "Well, I've been married since before the cutoff date." And she said, "We didn't make a mistake. We're out of single guys. We're into the married guys, and you're going."

Okay. So I went and told my boss, and this was one of the amazing things. He said, "Well, I know what it's like. I was in the Seabees in the navy in World War II." And he said, "The hard part is on your wife, because they don't pay you anything." And I said,

“Yes, I know.” And he said, “I’ll tell you what. I’ll pay –” And by this time, my base salary was \$450 a month, but I got a percentage, by the way. He said, “I’ll pay your base salary all the time you’re in the army if you promise to come back to work for me in two years and one day.” I said, “You’ve got a deal.”

So I get into the army and they give you these stupid tests which basically, to me, they look like IQ tests. They don’t say that, but I’ve taken enough tests that – you know. So I’m sitting there thinking. I’m in downtown LA. I said, do I ace this or do I dump it? And I look around the room and I said, I think I’m going to ace it. These guys don’t have the choice. So I did. And I must have really aced it, because now I’m in boot camp and the captain of our unit calls me in and he says, “You’re going to OCS.” I said, “No, I’m not going to do that.” And he said, “Well, you got the highest score I’ve ever seen. You’re perfect material for Officer Candidate School.” I said, “No, I’m not going to do it.” So he kept on me and I finally just said, “Look, I’m just not going to do it.”

The next day, I get a call from a major to come up to battalion headquarters, and he starts in on me. I said, “Sir, let me explain what the facts are. I am being paid \$450 a month under the agreement I’ll come back in two years and one day. I don’t want to go to OCS. I’ll do my two years and I will not try to be a problem. I’ll do everything I’m supposed to do. But that’s it.” He said, “You’re making almost as much money as I am as a major. Get out of here.” Nicely. I mean, he was very nice about it. So I spend my two years in the army and I never left California.

**KD:** And then went back.

**BL:** And went back. Went back to work for him. That was in September of '68. And my boss called me up on Christmas Eve and he said, "Come over. I want to talk to you." So I went over at Christmas. I'd been back three months. And he said, "I'm retiring and I'm giving the specialist post to you." And I was stunned. I was twenty-seven. There wasn't anybody down on the floor running a post at that age. I mean, they were like forty-seven, fifty-seven, sixty-seven, because a lot of them had come back from World War II and went back to their jobs, and they just didn't have replacements yet. Later, of course, lots of young people came in, but at that time, I was one of the first to kind of – so the so-called floor trading committee voted me down.

**KD:** These are specialists from all the brokers that are –

**BL:** Actually, they weren't specialists. The floor trading committee is a combination of specialists and floor brokers, and they're the first level of adjudication, so minor infractions get dealt with at that level. If there's a higher infraction, they go to the board of governors, and if they're higher than that then they get into the courts and whatnot. But usually, they never get – the exchange takes care of its problems pretty much internally, and most of them are pretty minor. So they turned me down and my boss said, "That is totally ridiculous. If I pick out my replacement, I should have the right to determine who it is."

So I didn't know this but as a former chairman of the board of governors, he could call for a governors meeting, which he did. Now, I wasn't in that meeting but I was told by some guys that were in there that – this guy, my boss, was of Russian heritage, and a big guy, with a hand that was just like a mitt. And I guess he went into that board meeting and he chewed them out left and right, and one guy told me that he hit the table so hard that the whole table jumped, and this was a big long table. And he said, "If I pick out my replacement, who the hell are you to tell me he's not the right guy? If he isn't the right guy, I'll come back. But he's the right guy. I call for a vote." And they voted unanimously, overrode the floor trading committee.

Now, that's a problem because my first day, I'm really on the hot seat. I mean, I know what's happened. And you've always heard about knees knocking? Well, believe me, I actually had them knocking. And I thought, I can't do anything that won't reflect really well on my boss and on our company and for the exchange. So I started out, made good markets, and for the first three months I lost money every month. It scared me. We had gone into a bear market and I had never seen a bear market. I didn't know what you did. I was familiar with short selling, but not really adept at it. So anyway, I figured it out after three months and started to make money, and I ended up profitable for the year but not for the first three months. And I made money every single year that I was a specialist, which was seventeen years.

During that time, I was fortunate in moving up very rapidly within the firm, and in 1974 – now, I'm only thirty-three – they asked me to be president of the firm, which I –

this is going to surprise you – I said no. And they said, “Why are you saying no?” I said, “I don’t really want to be president. I’m not interested in running the company. I love what I’m doing. I want to continue to make markets. That’s what I know and that’s what I want to do.” And they said, “Well, you can do that during the morning and you can come up to the office in the afternoon.” And I said, “Well, I would only do it under one condition and that’s if Al Mainland –” who had been the president. Much, much older. I think he was a Booz Allen partner before he came to work for us. Very sharp guy. I said if he would stay on and help me with the operational side of things, then I would consider it. And they asked him and he said yes, he would do it. He was a fabulous guy.

So now I have two jobs, really. Now, I have to back up because I skipped over something that was very important. In 1968 when I came back from the army, we were involved in the back office problems that we had, which I’m sure you –

**KD:** That was one of my questions, yes.

**BL:** Yes, okay. So we come back and we were forced to close on Wednesdays and close early Monday, Tuesday, Thursday, and Friday, and you weren’t supposed to solicit orders on Wednesday. Well, voila! On Thursday morning there was this massive influx of orders. Obviously, the salesmen were out working on Wednesday anyhow. But we were really restricted on time, and therefore how much money you can make, because that’s a function of trading. So now we’re getting close to the time that the SEC has determined that we could go back to normal hours, the back offices had caught up, they brought in

computerized systems. In those days, they said we spent a billion and a half dollars getting the back offices up to speed, and everything's a go.

And I said, "Well, what about us?" And everybody says, "What do you mean, what about you?" I said, "We have paper and pencil down on the floor. We're so far behind it isn't even funny. There isn't anything that's automated down here. When we do an odd lot, we write it up on a piece of paper and we walk it over to each of the booths on the exchange floor and drop it off." I said, "We've got to automate. We're going to get inundated." "Well, how would you automate?" And that's where I started to think about how you automate systems. Now, I'm not a systems guy. I did program a teeny bit at San Diego State in Fortran, and I mean a teeny bit, in a marketing research class. But I never even took computer science. I just studied the Fortran and worked with a guy in the computer area.

**KD:** But this was the back office crisis, automating the back office functions. You're talking about automating the exchange floor itself.

**BL:** On the floor. And out of that, I said, "You know, and there's an opportunity for us. If we automate and we're the only automated exchange, we can offer services to our members that nobody else can offer, including the New York Stock Exchange." And so we develop something. We originally called it COMEX, and of course the COMEX Commodity Exchange challenged us and we lost – well, we just said, yes, we realize that

we're in sort of the same business and we can't have the same name. So we changed it to SCOREX.

**KD:** How did it work?

**BL:** It worked – well, let me back up and tell you that one of the things that happened was the New York Stock Exchange challenged us, and were really nasty about it. They sent out Gus Levy, and what was the guy from Bear Stearns, the cigar-smoking guy? Lewis. What's his first name? Anyway, those two guys come out and they meet with our board of governors, and they threaten them. Fortunately, we had as outside counsel at the time Chuck Rickershauser, who was with the firm of Munger, Tolles & Rickershauser. And I say Munger slowly because you need to – and I met Charlie Munger in 1965. He eventually owned half of our firm, by the way.

At any rate, and Chuck Rickershauser was the youngest corporation commissioner in the state of California in the history of the state. I think he made it when he was thirty-four. Graduated I think number one in his class at Berkeley. I mean, a really smart guy and a good friend of mine. So we brought in an antitrust lawyer from Cadwalader, Wickersham & Taft in New York, and I was trying to think of his name because I knew you were going to probably ask this. Very famous antitrust lawyer, and he was at this meeting when they threatened us. And so the board huddled with him and came back in, and he then said, "Gentlemen, if this is the direction you want to go, I need to inform you that this will be going down the path of antitrust. I think you should know that if we

prevail, it will be treble damages every day, and here's the approximate amount of money daily that you're looking at." And I think it was like a quarter of a million dollars a day, times three. "So if you really want to push this point, go for it."

Well, they back down, because this was going to be a big number and they were going to lose, probably. I really mean that, because their attitude about it was, well, we're just going to stiff-arm you. So the significance of that is that we needed to have the ability to read the tickertape. Now, when I say read it, I mean electronically read it. Because let's say you had an odd lot in IBM. Well, the way our system was designed was the next time IBM traded anywhere in the country, it would click off on that price. And of course in those days, it was plus or minus an odd lot differential, so in IBM it was, if you were buying it was that price plus a quarter of a point. And if you were selling, it was that price less a quarter of a point. So as a specialist, you had a built-in edge, if you will.

But it was all automated, so we designed it so that all – because I was a specialist in IBM and odd lots. This is paper. Sometimes they were that thick because they'd be one share, ten shares. It was \$700 a share, but people didn't have that kind of money. They didn't buy a round lot. Fifty-share order was a big order. So we'd have this stack of paper every morning. Guys would be clocking them in. Well, every one of those you had to write down the price, write our name on the other side because that's who they were effectively trading with, then physically go deliver them to all of the booths around the exchange floor. Well, you can imagine how much wasted energy and time there is and how long it takes for the customer to find out what they did.

So we built it – and I say we. I was involved in the design, not the programming. I want to emphasize that. Because I'm not a programmer. But, and this is a big but, I have a facility to communicate with programmers that a lot of people don't have. I was never trained in it or anything like that, but I was able to tell them what I wanted in a way they could write it, and often I'd get something back that looked approximately like what I had asked for. And if it didn't, I could show them where to modify it.

**KD:** How long did it take you to get this system up and going, SCOREX?

**BL:** Not very long. I would say – and I'm going from memory on this now – less than a year, I know that. It may be nine months.

**KD:** And it was around '69 or something like that.

**BL:** Yes, I did the first trade. That was the first electronic trade ever done in the world.

**KD:** Do you remember what the trade was?

**BL:** Occidental Petroleum. I do, yes.

**KD:** How long did that system hang on?

**BL:** It evolved. And the way it evolved, the way I sold it to the specialists in the exchange – and I say sold in the sense that anytime you introduce something technological to people that aren't used to it – there was a book written on this, *Crossing the Chasm*. I don't know if you – okay. Basically, it means getting from here over that gulf that says I don't want to go there, this huge leap of faith. And all the – Apple Computer today is going to deal with it every time they come out with a new product. Now, this one isn't the big leap because it's just an extension of existing product, but for us, that was a big leap.

One of the funny things that happened is the day that we were going to go live, one of the member firms – I think they had three specialist posts. I'm not going to name the firm. I don't want to embarrass the – the owner is no longer living, but I still don't want to embarrass him. But I'll tell you the story, because it's kind of an interesting story. They came over to my post and they said, "We're not going to allow any computer to execute orders with our money. We're just not going to let that happen." And the owner came up to the floor with a pair of lawn shears, hand shears, and cut the lines at his post. So there was quite a ruckus, as you can imagine. And I'm young. Believe me, I'm like not even thirty. And somehow this came to me, and I said, "You know, sir, you're right." Now, he was my senior by thirty-five years, at least. And I said, "You're right. We'll reallocate all those stocks to other people that do want to do it." And, of course that was the death knell for them, and the specialists went, "Are you kidding me?" Because they were going to lose their post. And the exchange had the ability and the legal right to do that if they wanted to.

So about ten minutes later, a junior clerk is sent down to talk to me and he says, “Mr. So-and-So would like to know if you could reconnect the lines. He’s changed his mind.” Now, he wouldn’t do it. He wouldn’t come up and do it, but he sent a clerk up there and I said, “Well, we’ll see what we can do,” and we did. Anyway, we went live that day, and immediately it was a success because when the computer read Occidental, the price, it added an eighth or subtracted an eighth, and it was hooked up to their computers in their brokerage firm, not to the booths on the floor. Directly to the firm. So, say it was Dean Witter. Dean Witter, Modesto office out in the boonies, they put in an order on Occidental Petroleum and as soon as it goes off it’s priced and it’s in their office, instantaneously. Well, that’s a shock, let me tell you, when a guy is used to waiting ten, fifteen, twenty minutes.

It had one other reason that was really critical, and this is something that I want you to think about. If you think about the price movement of securities, which they do move, and it takes ten, fifteen, twenty minutes for you to get the execution – I’m going to make a statement – 50 percent of the time, the price will be better than what you thought it was going to be. Your execution is better. Fifty percent, though, is going to be worse. Well, the 50 percent worse is where the problems start, because the customer thinks they got screwed, and there’s no way around that unless you give them the answer right now. So if I give them the answer immediately, then they know they didn’t get screwed because it’s exactly what they were expecting. That’s an enormous advantage from a marketing standpoint.

So we started signing up brokerage firms left and right all over the country, because they now knew they could get instantaneous odd lots, and it uncluttered their back office from the standpoint of paperwork and so forth. They went right into their accounting mainframes. That was a significant change. And of course, it got rid of all that excess paper on the floor that we were dealing with. We still had to deal with the round lots. So then I went to the committee and I said, "You know I've been thinking about this and I think we can do up to 199 shares." And they go, "Well, how? How are you going to do that?" I said, "Well, we know we have to do 100 shares. We have to have a market and we have to do 100 shares, and if the client has up to 99 shares attached to it, you have to do that too. So why can't I take the market and automate that? You know you're going to do 199. You have to." You have to have a bid-and-ask as a specialist.

Well, with a lot of gnashing of teeth and unhappiness and everything else, we got it through. So now we jump from odd lots to what I would say was the camel's nose under the tent. Now we've got up to 199 automated. That was a huge jump.

**KD:** Was that just an arbitrary decision, 199? Couldn't you have done 299 or 300?

**BL:** Well, baby step at a time. We went to 299, we went to 399, we went to 499, we went to 1,099, and then I couldn't get it any further. They wouldn't go further.

**KD:** But you were just starting off conservative.

**BL:** Let them see that it's good.

**KD:** So it started with odd lots and then you got it to round lots.

**BL:** Right. And we got up to 1,099. Never got it higher than that. Now, from a historical perspective, we were the only exchange in the US that had this automated facility at the time. New York's position was everything we were doing was illegal. They tried to throw sand in the gears every chance they had. They were down petitioning the SEC. I mean, it was just a nonstop issue. So I tell you that because starting in about 1970 – and I'm not even thirty yet – I got subpoenaed to go to the SEC and testify. I had been to Washington one time when I was in high school, the typical high school tour. And I went to my boss at the time and I said, "I got this subpoena. What does this mean?" And he said, "Well, let me look at it." And he said, "Well, it has a number down here to call, so let's call them." So he picked up the phone, he called the guy at the SEC and we said, "We got this subpoena. What does this mean?" "Well, we'd like you to come back." "Well, what if we don't want to come back?" "Well, we have ways of making you come back. It'd be better if you came back on your own." "Oh, okay."

So I was due to go to Japan when this happened, to give a speech, because the Japanese were coming to America to study our markets and I was the guy that gave the tour on the exchange floor every time they came. There'd be forty or fifty of them and I'd give the tour and explain everything. So then they wanted me to come over to Tokyo and see their market. Everything was set up, and wouldn't you know it collided with that SEC

hearing so I didn't get to go to Japan then. I've been there many times since. But I went and I was scared to death, I have to tell you, because I didn't know to expect. So, turned out to be fine. I mean, I knew what I was doing.

**KD:** Who was in the hearing? The Director of Market Regulation, that kind of thing?

**BL:** Oh, yes. Head of Market Reg was there, and I'm trying to think of his name. I can't think of his name right now. It'll come to me, I'm pretty sure. Pretty famous guy. So I represented the Pacific exchange with the president. Now, the reason the president wanted me to go was that he's not a technical guy. I mean, he doesn't understand what's going on on the floor, really. He's a figurehead. So I went back with him and basically I ended up answering almost all the questions. Well, that led to – actually did it more than once, but fairly quickly – the chairman of the SEC at the time was Bill Casey, William Casey. And unbeknownst to me, I got picked by Casey to be one of nine people on a committee to develop what they called the central market system.

Let me back up just one second. I jumped over something that's significant. In 1970, William McChesney Martin, former chairman of the Federal Reserve, had been hired by the New York Stock Exchange, I believe, to do a white paper. He was going around the country and he came to LA, and they had a dinner for him at the California Club right downtown, and I was invited to go to this dinner. And I don't know why, but I was a little bit late getting there, and I walked into the big dining room that they had set up and everybody was seated, and there was one seat left, and it was next to McChesney Martin.

And I hesitated. I thought, well, that's not my seat, that's for somebody else. Really, I thought I really screwed up and that's for somebody else.

Well, it turned out it wasn't. They said, "No, no. No, come on. You can sit over here." So I sat next to him. He was right here. Well, you're sitting there having dinner and he says to me, "Son, what do you do?" He was a very nice guy, and so I told him I was a specialist. And, "What are some of your problems?" I told him some of the problems. And he said, "Really? That's interesting." So he didn't take any notes. You know, it was a dinner, a fairly formal dinner. Next morning, the president of the exchange calls me and he says, "Mr. Martin wants to come in and talk to you." I said, "Okay." He said, "He wants to visit your post." I said, "Fine." So they bring him in, he comes up to the post, and he says, "Son, I'd like you to show me how this problem works that you're talking about." I said, "Okay, that'll be easy." So I showed it to him. Almost the first guy that came up, I was able to show the problem.

**KD:** Was this regarding computerized trading?

**BL:** No, this had to do with – so when you open a stock, there's really one price. It's the opening price. And then of course as stocks trade, then there would be multiple prices, so the range, if you will, opens up. When you're on a regional exchange, you can only – and this is not our rule, it's the broker and customers' rule, if you will – you only can trade within that range. You can't trade outside of that range. Not by law, but the cosmetics of it require it. So what that does is it forces us to send part of the order to

New York so that you can find out what the price is, if it's going to be outside of it. So I'm the specialist in IBM and I'm explaining to him I have to send orders to New York when really I should be able to do it here. They can do it. Nobody on the New York floor says, wait, it's not in range. We make a new range when we do that.

So, fortunately, it happened actually while he was standing there and he saw exact – I said, “I'm going to bid this guy 720 and a half for IBM.” He had 1,000 shares. I said, “I'm going to bid him 720 and a half for 1,000 shares.” It's a half a point out of range. The last is 721, and it's coming down, by the way. Well, he can't trade. And the brokers are standing right in front of me. So I said, “He can't trade, so here's what I'm going to do. I'm going to have him sell 500 in New York and whatever the price is that he gets, that's the price I'll pay him for the other five. But it will be lower than what we're offering to pay right now, so in the end, the customer is going to get screwed.”

Sure enough, they got 718, because they pounded it on down. If they had been willing to take 720 and a half, which was admittedly a half a point below the low at that point in time, they'd have been able to sell the whole thing right then and there. Well, as soon as I explained that to him, he realized this was anticompetitive. So later in life – and I had to bring this up because later I got – much later, '76 actually – got involved in trying to solve that problem.

**KD:** But you encountered him at this SEC when you were testifying for the SEC?

**BL:** Not McChesney Martin, no.

**KD:** We sort of left the thread hanging where you were called to Washington.

**BL:** Yes, that initial meeting was really just to describe some of the stuff we were doing on the Pacific in automating and so forth. As a result of that, though, I then got picked – I don't know whether Bill Casey did it or not, but somebody picked me at the SEC to be on this nine-person committee. The committee work was represented by New York – well, it wasn't called NASDAQ at that time – over-the-counter; a newspaper guy, because we were talking about how we would get data out to the newspaper people – I'm trying to think of all the people around that committee. Oh, Don Weeden from Weeden & Company.

**KD:** Third market?

**BL:** Yes. I'm drawing a blank on all the people.

**KD:** Oh, that's okay.

**BL:** Anyway, there were nine of us and we met once a month for a year. We rotated where we would meet. So I hosted one of the meetings, and the rest of the time I had to travel somewhere. New York, Washington, Chicago, Philadelphia. And we would meet for a

whole day and we would argue, professionally, the various points about how this national market or central market system should work and what it should look like.

**KD:** This is mid-seventies or this is early seventies?

**BL:** This is '71. So we finally finished, so with nine of us we had, I believe – you're going to laugh – I believe we had twelve position papers. (Laughter.) I only had one, but there were guys that had two. But at any rate, so we submitted those and obviously there was no consensus, and we all fought for our respective rights and positions, if you will. So Bill Casey was unhappy with us, fired us, essentially, and formed another committee, and the same thing happened. And he fired them and formed another committee, and the same thing happened. So now we're getting to '74, '75, and the Securities Act of '75 is being drafted and discussed at length.

**KD:** Right. Hearings were going on.

**BL:** Oh, yes, I was testifying. Several times, actually. And, you know, New York was right there. I mean, we were all there testifying. And at some point it became clear that we were just not going to come to a consensus. It just wasn't going to happen. So Congress broke the Securities Act of 75, and essentially mandated in so many words. That was significant. Now, with that act written – and I read it very carefully. It basically said either you guys do it or we'll do it for you.

Now, I'm going to tell you something that very few people know. I suggested to our exchange management – and I was on the board by this time. I went on the board in '75. And I said to the chairman and the president and several board members, I said, "I think we should hold a clandestine meeting with the New York Stock Exchange," and we suggested Los Angeles because nobody would know what was going on. I remember the place we went to. I remember it like it was yesterday. So we had their chairman, their president, their head of systems – a guy named Bob Hall. Their vice-chairman was there. Anyway, we had a complement of the same on our side.

And so we suggested what became ITS, Intermarket Trading System, which was really an idea that I had come up with. I'm not claiming to be the inventor completely, because it evolved over some time, but the rough outline of what I had in mind was ITS. It took two years to design it and argue out the rules. What we did is we had an agreement with New York. They went back to New York and then they came back to us on the phone and said, "Yes, we'll work with you on this."

**KD:** Was your sense that New York was feeling the pressure, that it just had to agree to something?

**BL:** No. The Securities Act of '75 said you're going to do it or we'll do it for you. That was the key defining moment. Because before that, New York just stiff-armed everybody and we had nothing to say. So once they read that, they realized, well, if we don't do it they're going to do it, and we're not sure how that's going to happen. So we spent two

years. I was one of two from the Pacific. The chairman of the Pacific, who happened to be a specialist also and a friend of mine from San Francisco, he and I represented the Pacific. So each exchange had two representatives.

**KD:** All the regionals?

**BL:** Well, at first it was just New York and Pacific, but as soon as the word got out, there wasn't a regional that wasn't going to be there. I mean, they all said, "Yes, we want to be there." So we had meetings that sometimes were pretty heated, because they're still fighting. They're still trying to craft the way everything is going to work to their advantage, and of course we're doing the same thing. Don't think I'm lily white. I mean, I'm trying to craft it so that it's advantageous for the Pacific. But after two years of fighting and working on rules and how will it work and everything, we actually got it up and running. It was very crude, extremely crude, and I'll tell you what I mean by that.

There was a mainframe in New York, and I don't know whether SIAC ran that for us or the New York Stock Exchange ran it. It doesn't make any difference, it was run by somebody else. But what we had was on the end at each exchange, at each post, we had, they were AT&T teletype machines and they had a 60-baud – I think it was 60. I don't know. It was very slow, 60-baud rate, so the printing would come out slowly. That became a significant problem for us later, but we'll get onto that. But it was cheap. We could get it up and running for a very low cost, which we did.

We then ran into problems where the specialists, particularly in New York, would ignore our markets, and this is where I just couldn't stand it. I mean, I'm standing for what I think is right, and so I'm just a big thorn in the side of the New York exchange. So every time they would trade through me, I'd send them a, "Hey, trade through me." The good guys would send an order to take care of what I had, the bad ones would just ignore you. And I mean ignore you forever.

**KD:** Because this was just a communications system. There was no actual trading.

**BL:** Right. You couldn't trade automatically. You had to send it and the guy either decided to do something or not do it, and they would just let it go on the floor. They didn't care.

**KD:** Was that sort of compromise or was it assumed that there just wasn't the technology to do trading that early?

**BL:** It was as far as we could get them to go. We could have done it automated. There's no question we could have done it automated. But they didn't want to. So I used to have a list of every excuse that they would give, and you probably know the joke where the guys are in prison and they tell jokes at night and eventually some guy says, "Oh, yeah, that's seventeen," and everybody laughs. You know, because they all know what seventeen is. So I had about ninety excuses and I said, "Oh, that's a fifty-five." And the guy in New York would say, "What do you mean, a fifty-five?" I said, "I've had that one before. That's number fifty-five." I had to make it fun, because it was driving me crazy.

But we did make progress, and some of my friends on the Pacific exchange, some of my specialist friends, particularly the ones working right around me, would say to me, “Why are you doing what you’re doing?” And I said, “What do you mean?” They said, “Well, you can move your market.” I said, “I know I can move my market, but if I move my market, they’ll never come out here.” They said, “It’s costing you money.” I said, “I know. I know it’s costing me money. Probably costs me 100 or 200 grand. But I am proving a point and I’m going to keep proving the point and I’m going to make sure that the specialists in my stocks know that I’m good for it, and they’d better damn well come out here or I’m going to complain every time.” And I did, every day. I’d send them a message, “I’m going to complain.”

**KD:** So where was the SEC on this? Did they see this happening?

**BL:** Yes, they did see it happening and I believe at that – I think, and I might be off on the dates on this, but I think Elizabeth King was on the ITS observer committee from the SEC. You know that name?

**KD:** No, I don’t.

**BL:** She’s a lawyer – was. I mean, I don’t know where she is now. There were two lawyers from the SEC that sat through our design meetings and then they sat whenever we had – we had ITS operating meetings, too, afterwards, so we would discuss and argue about

things that were happening. I'm going to say this. I know you're writing this for the SEC. They were extremely passive. Not because they were women. I don't want you to think that. I am not implying that at all. I don't know whether they understood what the implications were or whether they wanted to be passive, but they didn't push hard. We had to.

**KD:** Well, Harold Williams, would he have been the chairman at that point, late seventies? Anyway, he was very concerned about breaking the stock market.

**BL:** Yes, I know.

**KD:** And not wanting to do anything crazy.

**BL:** I knew all the chairmen, by the way, all the way through. He might have been by that time.

**KD:** So basically, ITS was governed by a committee, essentially?

**BL:** Yes, it was governed by the participants, if you will, of the exchanges. We had a standing committee, so there were two from every exchange, two people on the committee. Those people changed over time, obviously. I was on that committee for the first, I think, three years, during the two years of design and one year of operation, and then I just couldn't stand it.

**KD:** Then you were back on the floor and –

**BL:** Oh, I was on the floor, but I still – you had to travel when you went to these meetings, so you fly back, have a meeting for a day, and then come back to LA and come back to your post.

**KD:** Did ITS stay pretty much the same after that or were there adjustments around the edges?

**BL:** Pretty much the same. Adjustments around the edges is the best way to describe it. Not super-efficient.

**KD:** Still just a communication system.

**BL:** Yes.

**KD:** Well, the next thing that comes up is Instinet. How did we get to that? That's another step up.

**BL:** Well, the guys that originally came up with the idea of Institutional Networks Corporation was a guy by the name of Jerry Pustilnik, Don Weeden, and a guy named, I think it was Charlie Adams. I don't believe he's living. Don Weeden is living.

**KD:** I have talked with him.

**BL:** He's a good friend of mine. In fact, I just got his book. He just wrote his memoirs. I haven't quite finished it yet, but it's good. Well, anyway, in 1971, while we were on this committee for the national market system or central market system, we invited Institutional Networks Corporation to present to us. And when I saw it, even though it was crude – and believe me, I'm talking crude and teeny – I looked at it and I said, “That's interesting. That appeals to me.” And I started talking with Jerry Pustilnik – he was the chairman – and he'd come and stay in my house when he'd come out to California. So anytime he was out in California, he'd come and stay at my house, we'd talk about what he was doing.

And I was instrumental in getting Instinet in the seventies first to – we had a cockamamie way of getting them onto the floor, basically. Weeden would take an order off of Instinet. If we told them that we wanted it, we'd see an order and we'd say, yeah, we'll buy that or we'll sell that. Then Weeden would take the order off of Instinet and catch a member and give the order to them and they'd walk it over and we'd do the trade. Very cockamamie way of doing it. I talked to Jerry Pustilnik and I said, “Jerry, why don't you join the Pacific?” “Oh my God, we couldn't do that.” I said, “Why? Why not? If I can get you in, would you be willing to do it?” “Well, yes.”

So I went. This is '75. I had just become a governor, and it may have been my second and third meeting. And the president – and I don't think he was president then, but the

president of Paine Webber, he was not president yet. Don Nickelson was the chairman of the exchange, but a real savvy guy. And I said, "I'd like to have this company Instinet become a member and deliver their order flow to the exchange." And a couple of guys said, "Well, isn't that that third market thing?" I said, "Yes, but now they're going to come in under the – they're going to put their nose under the tent. They're going to become a member." Big fight. Big, big fight, but I prevailed. And I went back to Jerry and I said, "If you'll buy a seat and adhere to the rules," which he could do, "I'll get you on the floor." Which, he did do that and he did – you know, now we could have the order flow available to us.

**KD:** Because it can come from the New York Stock Exchange to the regionals.

**BL:** That was okay. No, this is coming from the third market in effect –

**KD:** Right. So that's why he needed to be a member of the regional.

**BL:** Right. So I'm beginning to knit together all the different places that orders can come from. So we got him in and we had the automated execution, I think at that time for 599 shares or something like that. So now he can do automated execution for 599 on his terminal, which for people like, I'm going to say like Bankers Trust or Wells Fargo – I'm just naming names that were subscribers to his service but had, essentially, retail customers. In other words, somebody that came in in the trust department and wanted to

do a 300-share trade, this is perfect. They can go like this and there's the report, as opposed to calling and waiting and all the stuff that goes with it.

So he started to grow very slowly and I kept saying, "I can automate more of what you've got. I know how to automate this." But he was very – be careful what I say, but he was very slow to pick it up. And so, you ask how did I get there. Well, I started buying stock in Instinet when Weeden merged with Moseley Hallgarten, which was a New York Stock Exchange member firm, and the New York Stock Exchange said, "Well, you, Weeden, you own Instinet. You can't come in here with that." So Weeden spun off to their shareholders all the Instinet stock. So overnight – they never went public – overnight, they had 2,000 shareholders, because Weeden had 2,000 shareholders. So, you know, of varying quantities.

So now it's trading, believe it or not, this Instinet stock's trading, not very much but the market's one-eighth at a quarter. That's the market. Twelve and a half cents at twenty-five cents. So I said to Don Weeden, "Hey, if you get any stock for sale, I'd be interested in buying." So one day he calls me, and it's probably three months later. He said, "If you're still interested I'm in touch with a pretty big block of stock." I said, "Well, how much?" And he said, "About 800,000 shares." And I said, "Well, I'll buy it at an eighth." He said, "They want fifteen cents, and you have to open an account at Nomura Securities." I said, "Don, I'm president of a brokerage firm. I can't open an account at Nomura." He said, "That's the deal. You have to have an account at Nomura." I said, "Well, is there any other obligation?" "No." I said, "So I could open

the account, buy the stock, have it delivered out and close the account.” He said, “Yes.” I said, “Okay.” So I went and got permission to do that and I bought that block of stock. That got me started.

Pustilnik would come to me periodically and say, “I’m out of money. Would you buy some stock at twenty-five cents?” And so I would buy a piece, and some of my friends would buy a piece. And then he had a fairly large number – I mean, it was probably a few hundred thousand that he wanted to raise, and so I thought, okay, this is an opportunity to get all the specialists as shareholders on the Pacific. So I went to every single specialist personally, and my pitch to them was if you have money – and you’re going to laugh when I tell you this – if you have money that you would go gamble at Santa Anita racetrack, there’s going to be an offering of twenty-five cents. But I don’t want you to put any money in here unless you’re prepared to lose it, because this is a really longshot.

And so guys would say, “Well, I’ll take 2,500,” things like that, or maybe 5,000. And one of my specialists who had been my clerk but now he was a specialist, he said, “I want 50,000.” I said, “Randy, you’re nuts. You can’t have.” He said, “I’ve watched what you’ve done. I know what you’re doing. I want 50,000. My dad and I want 50,000.” His dad was putting up the money. I said, “Randy, I just, I can’t do that.” He said, “Why?” And I said, “Because I can’t guarantee it’s going to work.” He said, “I know, but I know what you’re doing.” I said, “All right, if you’ll guarantee me that you

understand the risk and everything.” So he got 50,000, and he took three and a half million out, by the way, which I was thrilled about.

**KD:** Yes, of course.

**BL:** So a lot of guys – I’d say we had almost about a 60 percent hit in terms of specialists, and that was good because now I’ve got guys that want it to work. We then started thinking of ways to improve the service. So now we get up to 1,000 shares on their automated system on the exchange, he’s got 1,000 shares, now that gets to be fairly serious for somebody like Instinet in those days. So I kept saying to Jerry, I said, “Jerry, you’ve got to move faster.” And I remember one day saying to him – this is a quote. I said, “I feel like Custer down in the valley, and I can hear the rumble of the horses and I can see the dust over the hill. I know it’s coming, and I don’t like it, because we’re going to get snuffed out.” And I said, “You can’t sit. You’ve got to move.” Well, he just couldn’t – he was very laborious in the way he operated.

And so, I finally said to him – I remember when it was. It was in late ‘82. I said, “Jerry, what is it going to take for you to get moving?” He said, “I need a marketing guy and I need a marketing budget.” I said, “How much do you need?” He said, “I think \$5 million.” And I said, “That’s a lot of money.” He said, “Yes, but I think if we had that and the guy, we could do it.” I said, “All right, I’ll get you the 5 million.” So I started going around to friends of mine that were heavy hitters. These aren’t guys on the – I mean, these are heavy hitters.

**KD:** These are in brokerage firms?

**BL:** Yes. And the last guy, I had 4,250,000 raised of the 5 million and I went to Bob Fomon at EF Hutton. Now, I knew Bob. You don't know this, but Bob had been a chairman of the Pacific exchange before he became the chairman at EF Hutton. So he lived in LA and I knew him from those days. So I called him up and I said, "Bob, I've got something I want to show you." I was in New York. And he said, "What's that?" And I said, "I can't really tell you exactly what it is. I want you to see it." "Well, what does it have to do with?" I said, "It has to do with trading." And he said, "Well, I'll send Norm Epstein up there." I knew Norm also as a operations guy. I said, "You're not sending Norm up here. This is for you. You either come up here or I'm going to sell it to somebody else." I said, "But you'll be sorry." "Hmph, all right."

So he comes up and it's about two in the afternoon, and I said, "Here it is." I think it might have been called Institutional Network still. I can't remember when we changed the name. I think it was still Institutional Network. And I said, "This is an automated trading system." And I think we're in a hotel room where I was staying. And I said, "So what I want you to do is I want you to call your trading department and tell them that you're going to call back in about fifteen minutes." Because he was not interested. He said, "I've got twelve guys on the floor. I don't need this." I said, "Yeah, you do." I said, "Okay, I'm going to prove it to you."

I said, "You call your guys and tell them have the guy in the booth ready to go, here's the stock that we're going to buy, and when you call back you don't want any excuses. You want the guy with his track shoes on and ready to go." He said, "Okay. What are you going to do?" I said, "After you hang up, I'm going to buy the same quantity that you're going to buy, and before you get your report back, I'm going to sell mine at a profit." "Oh, I've got to see this." I said, "Okay." So I picked the stock that was thin because I knew it would run. I can tell you what it was. It was Superior Oil. And so he called, and you would think I would be in a big hurry, but I wasn't. He said, "You better hurry up." I said, "Oh, Bob, I've got time."

So I just slowly typed it in and I bought the 2,000 and I waited. I waited for his 2,000 to get there after mine, which it did, and it marked it up some more, and I said, "Oh, I've got a profit." Turned around and sold it. He still didn't have his report back. And he was a pacer. He's passed away since then, but he paced all the time. A smoker and a pacer. And he's getting mad. And then finally he turns to me and he said, "Oh, you really know how to hurt a guy." I said, "What do you mean? I'm here to help you." He says, "No, I've got a big organization. I've got twelve guys on the floor." I said, "You've only got it that way, Bob, but this is the future. You should get in on the future."

"All right. How much are you putting in?" I said, "A million of the 5 million." He says, "I'll take a million." I said, "No, you can't have a million. There's only 750 left." He said, "I know how these things work. I'm taking a million." I said, "I know how they work too and you're getting 750. Take it or leave it." So he did. He took the 750. He

got about three million out of it – or three and a half million, I can't remember – for his 750.

But that kind of got the money and then – oh, no, I'm sorry. This is the key point. Bob then said to me, "I want to meet the CEO before I put the money in." So he meets Jerry Pustilnik and he says to me, "That guy can't sell anything." I said, "I know. We've got to find a marketing guy." He said, "You've got to do it." I said, "Bob, I'm running a brokerage firm, I'm a specialist on the Pacific exchange. How the hell am I going to do this?" "I don't care, but you come back here and do this. You come back, you can make it happen." So I thought about it and I had several other friends that were in it and I said, "Well, I'll put my assistant in charge of my specialist post." He was capable. "And I'll come back." I said to Fomon, "If I agree to come back for a year and get the marketing program going and everything, will you say yes?" He said yes.

So I came back, told my wife, I said, "I'm going to be in New York for the next year. I'm going to go back and forth on weekends, fly back and forth." And so I agreed to basically come in. And Jerry was supposed to stay there as chairman. I came in as president, actually, and started the marketing thing. Well when the word got out that I was there, the stock went literally nuts, and I mean when I say nuts, it went nuts. I know when it was. It was the August of that year. My wife and I and our daughter were in Colorado on a vacation, and I get a call at about seven in the morning and Jerry's on the phone and he said, "I just want to let you know that I've resigned." I said, "From Instinet?" He said, "Yeah." I said, "You can't do that." He said, "Well, I just did." So I

later found out he wanted to cash his ticket. He had about 3 million worth of stock, and Boyd Jefferies called me and said, “Do you want to buy 3 million worth of stock?” I said, “No, I don’t want to buy Jerry’s stock.”

**KD:** This is August ’83?

**BL:** Yes. So I go back and the board makes me chairman and CEO, and now I’m stuck because not only – I don’t have a marketing guy or a CEO. Ended up being five and a half years that I stayed there. Moved there.

**KD:** So this marketing that you were going to do, what exactly did that amount to?

**BL:** Well, there were a couple of very, very significant things that happened that I’ll share with you. We made the system totally anonymous so that nobody knew who the other side was. And in order to do that, Instinet had to be in the middle. And when I say in the middle, I mean in the middle of every trade. So there was a financial risk, if you will, for the participants, that if we failed they’d have a problem. And so, not everybody was excited about that.

The first move that I made when I got there, I had five executives working with me there. Not a very big firm. Two of them had run over-the-counter firms. One of them was Singer Mackie and I can’t remember what the other one was, in Seattle. But anyway, they both were experienced guys, similar age to myself. No, they were a little bit older

than I was. And I said, “Guys, I think this system –” We were only doing listed stocks at this point in time that were competing with New York and everybody else. “I think this will work in the over-the-counter market.” And they go, “No, you don’t understand the over-the-counter market.” I said, “Yeah, I think I do more than you think I do.”

“Well, why do you think it’s going to work?” And I said, “Well, suppose we’re all sitting around a table like this and each of us are market makers in Apple Computer, whatever the stock is. So we each have our book, we’re long and short, but none of us want to put a card out in the middle of the table and expose our position, so we all keep it here.” And I said, “What if you anonymously could put a card out there and find someone else that has the contra side of that, and neither of you would ever know that you guys did the trade? And if you didn’t do the trade, no harm no foul.” “Won’t work.” That’s what they said to me. And I said, “Well, this is one time that I’m going to pull rank on you guys. I am the CEO and I will be the first to say I wear this if it doesn’t work. But I would ask you to help me. I believe so much that it’ll work.” So they agreed to do that and we started in the over-the-counter.

One of the key moves that we made was we went to four or five – I can’t remember now – of the so-called wholesale market makers. These are firms like Sherwood Securities. They’re not around anymore, but Sherwood was one of the first. Meyerson. I can’t even remember the names of these firms. But the significance is we said to them, “Well, if you’ll sign up and we – so pretend now you’re an OTC market maker and we take the same template that we had for the Pacific and I say to you every order that comes

in of 1,000 shares or under will automatically get delivered to you and you'd automatically execute it and come back." I said, "That will be a heck of a powerful thing to sell." And they signed up for it.

Now, we had to give them an attractive deal. Well, the stodgy firms, the Bear Stearns, the Goldman Sachs and so forth, went nuts. They had stiff-armed us, okay? But they went nuts. And I was getting threatening calls. I mean, I got a death threat from one of them, seriously. And I said, "Look, we gave you guys the chance and you chose not to, so I'm sorry. If you'd done what we were asking you to do, we wouldn't have this problem." Eventually, I had to go back to these firms and buy them out of their special deal because these other firms were just knocking the doors down, because we were doing business. The business took off. And once I bought out the guys that had the automated deal, then everybody in the street wanted to be on the system, all over the country.

So suddenly, a guy in Denver and LA and Seattle or Minneapolis or Kansas City can be right in the thick of things as if they were in New York, in the over-the-counter market. Nobody would know who was in there. And the institutions loved it because they could slip in between the bid-and-ask anonymously. And so, I was demoing the machine at Goldman Sachs, and it's back when MCI was a big active stock, and I had a personal position and the stock was seven and seven-eighths at eight. I remember it like it was yesterday. And I'm showing the head of trading, I said, "Look, I can put an offering in at

eight.” He said, “So what? Everybody else is offering it at eight.” They’re all offering 1,000 shares, by the way, because that’s the protocol in NASDAQ. You never show size.

So I said, “Well, I’m going to put 5,000 out there at eight.” And I said, “Maybe I’ll get a seven and fifteen-sixteenths bid or even a seven and seven-eighths bid.” Well, I barely got it out there and it went at eight. “What happened there?” I said, “I don’t know, a guy obviously wanted it.” I said, “I still have 30,000 shares. I think I’ll offer it to him,” which I had a way to do where you didn’t just show it to everybody. So I went back to the guy, “Are you interested in doing more? I have 30,000 at eight.” Took it. Now the guy at Goldman says, “Put it in.” Suddenly he realized that if he’s not in on that, he’s going to be left at the starting gate.

**KD:** So you’re essentially taking ITS around and showing it to everyone and just cutting them in on it.

**BL:** Yes. So that was a significant change, though, going into over-the-counter stocks. Before that was just listed. And you just have to understand those are two separate markets and how they work is very separate. But now we’ve got something that’s exploding in volume. I mean, just really taking off. And about that time, I said to our board, “I want to do the same thing internationally.” And I remember a couple of the board members, and they were pros, they said, “Oh, you just want to travel around the world.” I said, “No, you don’t know me very well if that’s what you think I want to do.” I said, “I want to extend our tentacles into places so that we have the only order flow

coming out of those places. We can go put this in Sweden. We can put this in Germany. We can put it in London.” And I started doing that.

Was it '86 that the big bang happened in London? I'm pretty sure that was the date. So as soon as that was announced, I was over there and applied for membership in the London exchange so that I could do the same thing I did at Pacific and the other places. That was quite an experience. I won't belabor it, but anyway, just becoming a member there was something. And then we went around the world. And then it was about a year – well, at that point in time – let me back up – I had a friend in South Africa that asked me to come down and do a presentation of Instinet to his – he had an annual conference. He came to New York and saw it, and he said, “Oh, you've got to bring this down to Johannesburg. I'll put on and there will be 400 guys there.” I said, “Okay.” So I took it down there. What a hassle to get that thing to work down there, because at that time we didn't have communications like we have it today.

But finally got it working and I did a demo, gave a talk, and after that two guys came up to me, South African guys in the brokerage business, and they said, “That's a canned demo.” I said, “No, that's not a canned demo. It's live trading.” “That's a canned demo. I know a canned demo when I see it.” I said, “Well, I'm telling you it's not a canned demo. This is live.” I said, “Name an over-the-counter stock and I'll buy 100 shares of it.” So he said, “Okay,” and he named an over-the-counter computer stock that I never even heard of. I mean, I know most of them, but I didn't know this one. And I said, “Okay. Do you know the symbol?” He said, “No.” So I type an admin into our guys in

New York. I said, "Look up the symbol for this company." Comes back, bring it up, it was about a \$27 stock. I said, "Is that the stock?" "Yes." I said, "Okay, if I buy 100 shares right now will you believe me?" He said, "Yes." Came right back, bought it. Now he's yelling for his buddy to come over. "You've got to see this." And so, there's a crowd there, so suddenly it goes from negative to positive.

Well, I didn't know it at that time – this is one of these things that's funny and life can – there was a reporter from Reuters that was standing there watching this whole thing, and later he became a good friend of mine. And he wrote a twelve-page letter to the chairman of Reuters and said, "I saw the future." I mean, I have seen the letter, because he had a copy and he showed it to me. And he said, "You have got to get into this place in New York and buy them." So they came in, chairman, president of Reuters US and a systems guy, and they kind of moused around a little bit and they said, "Well, we're here, we'd be interested in buying out." I said, "We're not interested in selling out. However, I would be interested in doing a deal in the international, everything outside of North America. We're doing fine in North America, but you could help us outside of North America."

So to make a long story short we made a deal, fifty-fifty deal. It took about thirty days to negotiate it. Announced it, and then from that point on I was the emissary, if you will, going around with the Reuters people to every – I went to eighty countries. I went to the Middle East, I went to Asia, I went to Australia, New Zealand. You usually had big presentations where you'd invite all the brokers, all the institutions, and have a twenty-foot screen and trade on it. And so, we were building that business very rapidly,

and unfortunately, they double-crossed us. Our stock went down because there was a bear market in technology stocks at the time, and they came in and made a unfriendly tender offer and bought us out.

So they paid about \$125 million to buy us out. I owned about 9 percent but didn't control it. And three years, just give you an idea – I knew we were turning the corner. This is the part that hurt so much, and yet the public didn't know it. Three years later they upstreamed from Instinet to Reuters a \$500 million cash dividend out of Instinet. So they bought it for \$125 million, upstream \$500 million, and still kept – they eventually sold it for three and half billion.

**KD:** You stayed on –

**BL:** I stayed on for about a year and a half. Financially, they made it worthwhile. I wasn't doing it for the money. What I remember saying to the CEO and to the four top executives that were below him, we had a meeting and I said, "Look, guys, I'll stay on as long as it's fun." I said, "Let me be clear. I don't mean ha ha ha, I mean intellectually challenging, and I just want to do my thing. I want to continue to build this." Well, the four guys that I talked to were all vying for the top job, and that guy was going to retire." And so, the five of us had a dinner in London and the first thing they said is, "Well, now there's five of us." I said, "What do you mean?" They said, "Oh, we know you're in the running for the top job." I said, "No, I don't want it." I didn't want it, because all the top guy does is travel and give speeches. That was not what I wanted to do. I wanted to

continue to build systems. So it became nasty. They just would take shots at me every chance they got. And I finally just said, “This isn’t worth it. I don’t need it.” And unfortunately, I have the –

**KD:** So when did you leave?

**BL:** I left, I think it was early ‘89.

**KD:** How about the market break in ‘87? What was the effect on Instinet?

**BL:** Fabulous. There were two times in our history that were really great. One is when the hurricane came through in New York City, because many of the offices were closed. We stayed open and we could operate, so we offered liquidity that they couldn’t get anywhere else. And the same thing happened when ‘87 happened, but ten times bigger. So as an example – I think it’s okay. I’m going to tell you the name. Bankers Trust called. I was working on the desk on the Tuesday morning after the big crash. I was in London when the crash happened, so I got on the Concorde in the morning, flew back to New York, and was in the office when the market was opening.

Anyway, a guy from Bankers calls and he says, “Can you take orders over the phone?” I said, “Well, we can but you’ve got a machine there.” He said, “I don’t know how to run it and I’ve got a lot of orders. Do you want them?” I said, “Yes.” So he said, “Get a big notepad.” “Okay.” He said, “Every order is for sale, every one is for 50,000 shares.”

And he said, “Just take the symbols down.” So I’m going down the – I had 100 orders, all at the market, every one. He said, “When you finish one, call me back.” So as I’d finish one, call him back, take another fifty. So he was just unloading, and we were doing business.

**KD:** Because that was the only place people could –

**BL:** Our volume took off like you wouldn’t believe. So then the next day that guy calls, he says, “Send somebody down here to train us.” So what was disaster for some was very good for us, because they couldn’t get anything done on the New York floor. They didn’t even have an idea within twenty points sometimes where something was trading, but they could trade on ours and know right away. So our volume really exploded from both of those events, but biggest was ‘87. And remember the other thing. By that time, we had our tentacles around the world. If you were a customer of ours somewhere outside of the US, can you imagine trying to execute an order? I mean, you’re in Japan and you want to do an order in IBM, you have no idea what it’s trading at or how to even get it executed. You’re trying to call Merrill Lynch, they won’t answer the phone. I’m not making this up. That’s what happened. So, suddenly, we got our spot because people realized, well, these guys are up and running, and we need to have that access.

**KD:** So you learned a lot about institutional trading, I guess, in running Instinet.

**BL:** Yes. I had a pretty good idea, already being a specialist, because I traded in institutions all day long. But I learned more. What I really learned and what makes me fairly unique – there are a few other guys like myself – but when I could be in the middle, if you will, and 500 broker-dealers around this table, figuratively, I got to look into every one of their operations and see how they operated and really begin to see from a very macro standpoint how this whole thing worked.

So I'll give you another example. Got a call from a guy at Morgan Stanley. This is probably about 1985. I'll tell you who it was. It was Nunzio Tartaglia and David Shaw, DE Shaw, but he was still at Morgan Stanley. And then he said, "We want you to come over and talk with us." I said, "Okay." So I go over to Morgan Stanley and they take me into this little skunkworks. It was about the size of this space here, packed with computers and six guys. I said, "Wow, what are you guys doing?" He said, "Well, we're trading the market electronically." "Really?" "Yeah. We want to hook up to Instinet but we can only do it if it's electronic computer to computer." I said, "We can do that." "That's what we wanted to know." "Yeah, we can do that."

So we scramble and we get them hooked up, and the first day that they come on they do 800,000 shares with us. You know, a lot of different stocks. Next day it's a million-something, then they're clicking along like that and I get a call from Nunzio and he says, "We've got a problem." He said, "I'm coming over right now." I said, "Okay." So I go into the trading room and I said, "Did we screw up on something with Morgan Stanley?" "No." "Everything is okay?" "Yeah." "You sure?" "Yeah, everything is

fine.” I said, “Okay.” So he shows up. We were about three blocks away, I think, at the time. And he says, “I’m going to go into your office and talk to you.” “Oh, okay.” He said, “Our problem is that we were bypassing our own over-the-counter trading department and they found out, and so they’ve gone to the guy running the firm –” Fisher at that time – “and raised hell with Fisher, and so Fisher wants to have a meeting with all of us.”

So I go into this meeting and the head of OTC trading is there, and Nunzio and myself and Fisher. And Fisher says, “Well, why can’t you just, on these orders, just show them to our guys and then if they don’t want to do it then you can do it outside.” I said, “Well, it doesn’t quite work that way.” I said, “I have no way to block what others are trying to do.” I said, “We can’t do what you want to do. I’d love to, but I can’t do it.” So Nunzio had to cut back. Anything that they made a market in, he had to send to them. And I’m sitting there and Nunzio says to the head of trading, he says, “You screw me one time and we’re going to do something else.” And Fisher says, “Well, he’s not going to screw you. He’s one of your partners.” Nunzio says, “One time.”

So two days go by. Nunzio calls up, he said, “Put that thing back in.” I go, “What happened?” Then he said to me, “Well, you know the scorpion story,” and I said, “No.” I know it very well now. He said, “Well, the scorpion’s on one side of the river and he says to the turtle, ‘Give me a ride across the river.’ ‘Well, why would I do that? You’d sting me.’ ‘Yeah, well, we’d both die. Why would I do that?’ ‘All right, climb on.’

And, of course he stings him and they both die. As he's going down, 'Why did you do that?' 'Once a scorpion, always a scorpion.'"

**KD:** So I'm trying to get a sense of when you started to get the ideas that led to OptiMark, and if this was incubating during the Instinet period.

**BL:** No, it was not. I clearly know that differentiation. So I move out of New York, back to California in '89. It's funny how you live in a place and you know it one way and then you go back, it's not the same. So after six years of being not there, it was a lot more crowded, just not what my wife and I remembered, so we weren't as happy there. So we went and bought a ranch in Colorado outside of Durango, and I restarted Mitchum, Jones & Templeton. And we were making markets, and I started to work on a system which turned out to be – you're going to laugh when you hear this. Are you familiar with IGT?

**KD:** No.

**BL:** It was owned by Jefferies and then it was spun out as a separate company. Anyway, I had two guys working for me. We were working on a system, and the guy running Jefferies called me up and said he wanted to come over and talk to me. He wanted to see what we were doing. And I'm a pretty open guy and I thought, well, he won't take that and use it against me. But he did. So what he did is he came over, he saw what we were doing and he saw how far along we were, and he doubled back and he tripled the pay of

the two guys that were working for me and they took it and went over to Jefferies and they built it, and it's worth a lot of money today.

**KD:** And that was ITG.

**BL:** Yes. However, you move on in life. I didn't sue him. He's not my best friend, but I didn't sue him. Boyd Jefferies was a very good friend of mine. Very, very good friend. But after that, probably about three years later, I guess it was '93 – my wife and I would commute back and forth between the ranch in Colorado, or we lived in San Marino which is a suburb of – you know it?

**KD:** Yes.

**BL:** Okay. So we would go back and forth, and always hated to come back to LA because it was crowded and we had smog, and leaving Colorado is pretty tough. So I finally said to her in early '93, I said, "You know, why don't we reverse this?" She said, "What do you mean?" I said, "Why don't we move? I'll move the whole company to Durango, those that want to go, and we'll come back to LA when we need to." Well, she wasn't sure. Anyway, make a long story short, I told her, I said, "Remember when you took the class on options?" She said, "Yeah." I said, "You know what a put is." "Yes." I said, "I'm going to give you a six-month put. If at any time in the six months you don't want to stay here, you just tell me and we'll move back." She said, "Really?" I said, "Yes." So about

three months after we're there, she said, "You know that put?" I said, "Oh man, yeah?" "You can have it. I love it here." I said, "Oh, good."

So now I started to build another type of automated system. We ended up calling it TOMCAT. Basically it was a terminal with quite sophisticated software that allowed you as a customer, whether you were an institution or a trader, to load orders in, and I'll give you an example. You could put an order in, and we did this, and we called them guns. So a gun has a basket of orders, one or more, and you label them and they're predetermined what you want to do. So suppose – and this comes from experience – suppose that a earthquake of a magnitude of 8.2 hits San Francisco. The second that you see that, what would you want to do in terms – well, you'd want to get out of insurance stocks, buy lumber and glass and maybe others. So you design what you want to do, and this is stored in there maybe forever. It doesn't have to ever go off. And there's all kinds. I mean, you have a variety of types of guns. And so institutions were starting to subscribe to that service. Now, we were a broker-dealer, and I remember we had several in New York that loved it. I can't think of the firms right now.

**KD:** What was the name of your broker-dealership? Is it still –

**BL:** Mitchum, Jones & – yeah. So in '94, a friend of mine came to visit me from LA. He's since passed away. He's quite a bit older. And he was there and he was looking at what I was doing and he said, "Do you have any interest in neural networks?" And I said, "Yes, I do." He said, "Oh, you know what they are?" And I said, "I know what they are but I

don't how to do it." He said, "I may have the answer for you." I said, "Really?" He said, "Yes, I'm on the board of a company in La Jolla that's been working on Defense Department stuff exclusively, but they are world class on neural networks and on a whole variety of technologies that you've never heard of." My friend was top secret also, by the way. He was on their board. I said, "I'd love to talk to them."

So he put us together and that's where Terry Rickard, my partner since '94, came from. And then Terry came out and I showed him what we were doing, and Terry said to me at the time, he said, "You know, what I see for the next ten years in the defense business is not that exciting, but this is exciting." I said, "Well, work with me," and I made him president. He has a PhD in engineering physics, which I will decipher for you if you don't know what that means. He's a mathematician of extraordinary capability. I mean, believe me, this guy is a genius.

So we started working together, and as I said to him, I said, "Look, I have the domain expertise, you have the toolkit." That's the way I described it. I'll tell you what I want, you know how to build it, how to write the code or how – I mean, he's not a code writer per se, but he knows how to build a system. So we started working together, and the two of us built this TOMCAT together. And along the way a guy calls me up and says, "What are you guys working on?" I said, "Well, we've got this TOMCAT." Harold Bradley. Do you know the name?

**KD:** I don't think so.

**BL:** Okay. Harold's a very interesting guy and somebody you should talk to. He's in Kansas City. I can get you his phone number. He's a wealth of knowledge. He was the head of trading at Twentieth Century Funds in Kansas City. So at that time they had about 80 or 90 billion in assets. He was one of our big customers at Instinet so I knew him very well. He said, "I've got a problem." I said, "What kind of a problem?" He says, "There's no liquidity." I said, "Harold, you've got to be kidding." And he says, "No, it's killing us." I said, "Harold, there's 400 million shares a day." "Not enough." So I said to Terry, "Let's fly over and meet with Harold and see what he's talking about," so we did. And Harold's a very energetic guy and very savvy guy about markets. He is somebody you should talk to. He's very involved with the SEC.

Anyway, Harold says, "Let me show you. Let me take you into the trading desk. Let me show you the kind of problems we have. Here's an order. I've got 3 million shares of this thing to sell." He said, "I can't put that order into the market. They'll read my mail before I take the first step. Help me solve this problem." So Terry and I go back. We asked tons of questions and then we went back to Durango and we held brainstorming sessions, which we included everybody in the early going but later decided that most of them didn't have the scope of understanding to add to it.

**KD:** Everybody being employees?

**BL:** Yes, employees. So later it became just Terry and myself. So Terry was sick for about four days with the flu, and he came back in and he said – he was really sick, but he said, “I think I had a real epiphany.” I said, “Really?” “Yeah,” he said, “I think I know how to solve our problem,” because we had defined it pretty well by this time. I said, “Well, tell me.” He said, “Well, do you know who Claude Shannon is?” I said, “Nope.” He said, “Well, he’s a famous scientist that worked at Bell Labs and taught at MIT.” By the way, they just put a book out on him and it’s fabulous if you want to read it. Just an interesting – I just finished it. The guy is incredible. Unfortunately, he died about 2001, I think.

Anyway, Terry knew him, knew all of his work, which basically was how do you take a big pipe of information and push it across a teeny pipe – and I’m using this figuratively – across the ocean, and then re-expanded on the other end and not have mistakes in the data. And he had mathematically figured out how to do that, which was an enormous breakthrough for any kind of telecommunications. We wouldn’t have the Internet today if it weren’t for him. It’s that simple. We wouldn’t have any of the stuff that we have today. He was a force. Well worth reading the book some time. You’ll enjoy it.

So I said, “Well, how does that help us?” He said, “Well, I know this is a stretch, but we have a problem also. Our problem is the same problem. We have a bunch of stock over here that we want to get through this narrow pipe over to this side, which is one or more buyers on this side or sellers on this side.” And so what Terry came up with was a – see if I can quickly show you. Oh, this one’s too basic. Okay, here we go. So we came up

with a way of describing an institution or anybody's interest in buying or selling. Each of these squares represents a cell, and the numbers or the coloring is your propensity, your scale of one to ten of how excited you would be to trade at that price and quantity.

So if you think about the problem, if you have 3 million shares, if I said to you you need to sell 3 million. You're the trader, and it's a tough stock to sell and it's trading at fifty bucks. And I said, well, what if I could show you a bid at forty-nine and an eighth?

Sold. I mean, he'd be so excited it wouldn't even be funny. What about forty? Yeah, I'd still sell it. I mean forty-nine. What about forty-eight? Well, I'll sell half of it. What about forty-five? I still would sell some if that's the best that we could do. What if I could only sell a little bit at fifty and a quarter? No, I don't want to sell any at fifty and a quarter, because if I sell a little bit at fifty and a quarter I've told the market I'm out there.

So you can design what's known as a profile to buy and sell, and it doesn't have to be linear like this, it can be up and down. So you can have a dip in the middle of it says I don't want to do anything at this price, but if I can get rid of all of it I'd be willing to give you another half a point to get out of it. What I'm going to do if you promise to send this back to me –

**KD:** Oh, absolutely. That'd be great.

**BL:** Because I only have that one copy. So one thing I didn't tell you is I've had three case studies done at Harvard, two on Instinet and one on OptiMark, which are fun, by the way. Have you ever done that?

**KD:** No.

**BL:** Well, when they do a case study they have you, the CEO, come in and sit in the class, and the first half they argue about the thing and then they bring you in, which is fun.

**KD:** Terrific. So this is basically the key to OptiMark, is your coming up with these profiles.

**BL:** Right.

**KD:** There was another word there was used, comfortability or something like that.

**BL:** Oh, confidentiality.

**KD:** Well, it's not the one that I'm thinking about, but that's okay.

**BL:** Yes. Because basically, we actually built it in a way that even we wouldn't know what was in it, and we had to prove that, so we hired Deloitte & Touche to come in and do an attestation which was a legal document. We ended up paying them \$10 million for that, by the way, so this is a serious document.

**KD:** Yes, so speaking of serious, when did you start to get serious about OptiMark?

**BL:** Ninety-six.

**KD:** Okay. Because you realized at some point that this was going to be a major investment and it was going to take a lot of time.

**BL:** Yes. I had doubts. I mean, by that time – personally, I’m talking about. And I remember saying to Terry, “We’re going to get to a point where there’s no turning back.” And I said to him, “I’m not sure that I want to do this. I know what’s in front of us. I mean, I really do.” I knew more what was in front of us than he did because I done the battles at the SEC and with the exchanges and everything. So the issue with OptiMark and the SEC, we needed to integrate. We approached the SEC with this idea, because I had already gone down the path with Instinet of being a broker-dealer and offering a service as a broker-dealer that integrated with the customers, with the system, a so-called ECN.

So at that point in time the SEC looked at their field of opportunity, if I didn’t put it that way, and had come to the conclusion there were only two ways that you could do something. One was to be an exchange and one was to be a broker-dealer ECN.

What I thought about was, well, wait a second. What if we were a facility of an exchange or a facility of many exchanges? I think that would meet the requirements that they’re

talking about. I can show you examples of facilities of exchanges that are computerized. SCOREX, DOT. There's a variety of them out there today that are facilities of exchanges. So I told Terry that we needed to go to the SEC and present this idea, and I called up the head of Market Reg at the time and said, "I need two hours of your time." Now, that is a lot of time to ask somebody, the head of Market Reg. Fortunately, he knew me very well, and I said, "And I guarantee you I'm not going to waste your time. I've got something that you've got to see." "When do you want to come in?" So we looked at calendars and he said, "You've got it. You'll have from one to three." Fine.

So we got there, we set up our terminal in their conference – they told us what conference room to go to, and we were in there working on that and a couple of lawyers come in and we said, "Oh, this conference room is taken for –" And I won't name the name, but – and, "Oh, no, no, we're here for that meeting." I said, "Oh, okay." So three or four more came in, and eventually there are twenty people in there, all from Market Reg. "We're here to see what you're going to show us."

So I wasn't quite prepared for that, but the head of Market Reg came in and he said, "Okay, so what do you have here?" So I said, "Well, we'll do a demo and then we'll talk about the regulatory environment." So we took him through a full demo of what the system did and how it worked and everything, and I said, "But more importantly I want to get to the point about how this fits into the regulatory environment." And he said this to me: "You know you only have two choices. You either have to be a broker-dealer or

you have to be an exchange.” And I said, “No, I think there’s a third.” “Well, what’s that?” I said, “A facility of an exchange.”

And I’ll never forget, he threw his head back and he started to laugh, and I couldn’t tell whether he was laughing at me or what. And eventually he stopped laughing and he turned to me and he said, “That’ll work.” That’s what I wanted to hear, because I had already thought through the ramifications and how it would work. So after that he then said, “Of course you’re going to need to have the Commission approve this.” I said, “Oh yeah, I understand that.” He said, “It’ll be the full Commission.” I said, “That’s fine.” And he said, “You’ll have to come back and do a demo and then answer all kinds of questions, but before you do that I want you to come back and talk to the chairman.” I said, “Fine.” I knew the chairman from previous experience before he was chairman.

So we came back and we had a meeting with the chairman and explained what we wanted to do, and I brought the chairman of the Pacific exchange with me. And I said, “We have the first exchange that’s willing to do this. We’re talking to others. And so, we’re ready to go. We just need your blessing.” Well, he said, “I’d want this –” oh, and Market Reg was there too and said, “Yes, we like this.” So he said, “All right. Well, you’re going to have to have a hearing in front of all the commissioners.” I said, “Fine.” So we did another demo with everybody there and they approved it.

Now, we had integrated the system. And you know now because of what I’ve told you about ITS, I know ITS as well as anybody, because I was one of the designers of it. I

knew the rules, I knew how it worked. And I told Terry at the time, I said, "Terry, we're going to have to integrate with ITS so that even if we're not a member of another exchange, if they have a better bid or offer, we're going to have to go out to that through ITS and take care of that. We're going to be integrated inside that even if that order is coming to the Pacific. He said, "Well, if you show me how it works, I'll get the thing written." I said, "Fine, I'll show you how works." So we did that and we showed the Commission how it worked. And the ITS people and the SEC loved it.

We then got the Commission to approve it and we started down the path of building the system. Now, at this point, we were way into it. I mean, we probably had already spent \$100 million. Just to give you a scale, we eventually raised \$350 million. By this time, though, with \$100 million, we had systems that were working, we understood how it would work. We had as our partner in the system side IBM. So we went to IBM supercomputer division, Terry and I did, met with the president of their supercomputer division and five of his executives, and explained what we wanted and what the criteria was, because the SEC said, "Well, you can do this as long as your total elapsed time of your process is under three and a half seconds." And I'll be honest with you, that's just a negotiated term, meaning if it's three and a half seconds or less it's considered continuous. If you went out to fifteen seconds, it wouldn't be considered continuous. You could get an argument about whether that's the right timeframe or not.

So we gave the specs to IBM supercomputer and two weeks later the head of the division called me and he said, "We're not going to be able to bid on this project." I said, "Why?"

He said, “We cannot meet those specs. We can’t do what you need to do in three and a half seconds.” I said, “You’re kidding.” He said, “No.” I said, “I’m blown away. I’m absolutely blown away.” He said, “Well, let me explain to you why we can’t do it.” I said, “I’m all ears.” He said, “We have supercomputers, but our supercomputers are high-speed sequential processing, vector processing.” So they go down a vector, was the term he used. “You need a computer system that is a grid-type solution, and we don’t do that.”

So I went to our head of systems and told him what happened he said, “Well, my brother works at DEC up in Boston, and they’ve got a new chip coming out that I think, from what I understand, can be put on a backplane with 100 of those chips that all interface with each other. Let me talk to him about it.” Well, to make a long story short, DEC could do it, and did do it. And so what we were doing was a lot of processing in each cell and then bringing it together, very, very fast, of course. We spent a ton of money on that, but it worked, and it worked just –

**KD:** There’s just a lot more variables in what you’re trying to do than in your typical trading software.

**BL:** Yes, as you can tell from those grids, if you stack 1,000 of those grids and you search for the optimal solution across 1,000 grids, let me tell you, that explodes in terms of computational intensity. It blows up. It’s not what you think it is.

**KD:** So you talked about the SEC but I thought that you'd probably be talking about the New York Stock Exchange also.

**BL:** Well, okay, so we did. Now, back up. Bill Johnston was president of the New York Stock Exchange at the time. I called up Bill – and he used to work for me, by the way. Let me correct that. Bill and I worked together. We acquired his specialist post on the New York Stock Exchange, so we've been friends for quite a long time, way before he became president of the exchange. So this is maybe twenty years later and I call him up and I say, "Bill, I have something that I want to come and show you and Dick Grasso, but only the two of you. I want no one else in the room. And my partner, Terry Rickard, will come with me. There will be four of us. And we need at least two hours of your time some afternoon. You name the time, we'll be there." I said, "I guarantee you, I'm not wasting your time." He says, "Okay." So we've got the meeting. Now, I've known Dick Grasso since before he was anything, really, at the exchange.

**BL:** We went to the New York exchange, we had a meeting with just Dick Grasso and Bill and showed them what we had, and they said, "Well, why are you here? Why are you showing us this?" I said, "Because we would like to have you as part of the system. We're not here to hurt the New York Stock Exchange. If you want to be part of it, you can be." I explained how we were working with other exchanges. So after that, we had a series of meetings with specialists, with floor brokers, with board members, and it was difficult because some of them could see that this was going to impact their livelihood, more the floor brokers than the specialists. Specialists, if they were smart, could make

more money, a lot more, and the reason is they can have their own profiles in there as a catcher's mitt or as a seller above the market and not have to have it in effect shown to the world. They would make more money if they knew what they were doing, but they were very fearful of it.

So eventually, the exchange voted it down internally. At that point, I'm going to editorialize what I think happened. I think the exchange used its political power to get the SEC to reverse its position, and the way they did that was to go to the SEC, put a throttle on how much volume we could put through ITS. So ITS was designed with no throttle limits –

**KD:** You mean OptiMark or ITS?

**BL:** ITS. OptiMark could only put so much through ITS to get to the New York. New York is now not part of the system, so now the only way we can get to New York is through ITS. So they're saying, "Well, you can only put up to 15 percent of your volume through ITS." I said, "Wait a second. ITS is designed to meet a requirement of the Securities Act of '75. I know that, you know that." "We don't care. That's the way it is." So I got a call from the SEC with this news, and the call went like this. "You have to go negotiate with Dick Grasso." I said, "What do I have to negotiate? I thought we had an approval from you guys." "Nope, you've got to go negotiate with him on ITS." I said, "There's nothing to negotiate. We've already integrated it, we're ready to go." "Nope, you have to negotiate."

So we go down to talk to Dick. Dick hands us off to some guy in the ITS skunkworks somewhere, and we had a horrendous series of meetings, just horrendous, because they didn't negotiate in good faith. And towards the end, I just got up and I said, "I've had it. I'm going to leave. I mean, there's no reason for me to be here. You guys aren't negotiating in good faith," which they weren't.

So we eventually went live with this 15 percent limit, and things were going along okay, meaning we're building volume and everything, and then we went through the 15 percent and so then they essentially cut the cord.

**KD:** Who did?

**BL:** New York. They could because we went past the 15 percent.

**KD:** So they cut it off entirely?

**BL:** Yes. And the logic of doing that, if you step back a second and you just say, okay, we built the system to equalize the opportunity for the customer to get to the best bid and best offer. That's what ITS is about. Okay? It's that simple. It meets the requirement of the Securities Act of '75. That's simple too. Now you're going to put an artificial limit on it. So as I said to one of the commissioners that was telling me this, I said, "There's something I don't understand. The first 15 percent of the orders that go in there meet the

requirements of the Securities Act. What about the other 85 percent? Are you telling me that they shouldn't?" I said, "It's not logical." But they weren't going to meet – the answer was, "We want the New York Stock Exchange to survive." That was the answer. I said, "I'm not out to kill the New York Stock Exchange. In fact, if they want to join, they can. But they don't want to."

So you know what happened? They killed themselves, because – they did. They're a mere shadow of themselves today. It's pathetic, frankly. It really is. When I look on the TV and I see CNBC with a big installation and nobody down there –

**KD:** Yes, I've been there, actually. I've been on the ghost floor.

**BL:** Yes, it's just horrible.

**KD:** So the 15 percent throttle certainly didn't help. What were the other challenges that OptiMark was facing during its year or so?

**BL:** Probably the other challenge, although we were making headway on it, was educating the customer base in something that was totally foreign, and quite frankly, quite sophisticated. And not everybody either could understand it or – and this is important – wanted to understand what it could do. Now, I'm going to give you an example. Suppose that you got an order to sell 5 million shares of a security and you started working them in order and you peeled it off in pieces. Over time, eventually, you'll get

rid of your 5 million shares, and you'll get an average price for that. And no one will second-guess you for making a bad decision, because you just you got the average over that period of time. The fact that it went down 10 percent, well, that was just the market. If, on the other hand, you got a 5 million-share order and you made the decision that you were willing to take a one-point discount to get out of the 5 million shares, you now have a risk that you didn't have before. Am I making it clear?

**KD:** Very interesting, yes.

**BL:** Yes. And so a lot of the institutional desks were afraid to actually utilize the power.

**KD:** They didn't want that accountability. They'd rather the market take their –

**BL:** Well, actually, what they really do is they hand the order off to a broker and then they blame the broker. It's really what they do. And then when the portfolio manager says, "That was a horrible execution." "Yeah, we won't give an order to those guys again for a while."

**KD:** Interesting.

**BL:** What we did do, just so you know, is we didn't just sit back and say, "Well, we can't solve this problem." We developed a thing called OptiMark Institute, and we had a team, several teams actually. They were three-person teams, generally, and we'd send them to

a city and hold a training conference, and we'd have a series of computers set up so they could all trade. Obviously, mock trading, but they could all trade, and see how it works. And it worked fine. We actually had diplomas that we gave out, and I believe we got to 3,000 diplomas, something like that. So we were making progress on that front in terms of educating people.

Now, there were lots of people that were afraid. You know, this system requires you to have some mathematical understanding of what's going on, and a lot of people just were so fearful that they'd make a mistake or so fearful that they didn't understand what it was doing, and they'd just clam up. They'd rather do what everybody in the industry calls slice and dice, just feed it out a little bit at a time. That's safe. Does it help the customer? No, but it's safe.

There's one other thing that's under the surface, but I'm sure you're aware of it. Especially back then. I think it's less now, but it's the commission flow so that if you give me a lot of commissions, I'll give you a very good IPO that's coming out. Well, we didn't do that. We just gave you a very good execution. But the customer, the end customer, the guy investing in the mutual fund or the trust or whatever, never sees that part. It's just like the people that pay for order flow today. The average person on the street doesn't know anything about that.

**KD:** Right. So do you think if you'd had all the money in the world and you just kept it going, you would have worn down the resistance eventually?

**BL:** I wasn't prepared for that question. That's an interesting question. I'm thinking about that. Yes, I think we would have worn it down, I really do. Because we don't have to have it all. And the key, the reason I hesitated, the key would be how many clusters of exchanges you could get put together even if you didn't have New York. Now, ironically, what's happened to New York, as you know they're a shadow of themselves. I mean, it's a museum. I mean, it's a living museum, but it's a museum. I remember the days when you could barely walk down there. We had crowds, there were lots of people down there, lots of noise. Now they're all working crossword puzzles.

**KD:** So one thing I noticed after OptiMark, you wrote, it looks like a treatise on what's called swing trading. Is that something that's inherent in what you'd been doing with OptiMark, Instinet, that kind of thing?

**BL:** No, it was really an effort with another guy to put in a book form how you can use swing trading, and that's really coming from being a specialist. That's not related to either Instinet or OptiMark. It was just, he had come to me and talked to me about the various ideas that a specialist does, and the more we got into it he said, "Well, let's write a book," so we did.

**KD:** Something that you'd known about years before.

**BL:** Oh, yes.

**KD:** And then you were just involved in a series of hedge funds from then on?

**BL:** Yeah.

**KD:** You got to be a specialist in, it looks like mines and minerals, that kind of thing?

**BL:** I did, because I've always been interested in minerals, dating back into the sixties. I actually was the specialist in Cyprus Mines, which was a very large mining company headquartered in Los Angeles at the time. I knew those guys very well. And just personally, I'd always been interested. I was a coin collector, so you get interested in gold and silver and so forth, and I've always been that way. Now, in 1980, I went to South Africa for the first time and attended this conference that later I came and did the presentation to, and I enjoyed it so much that my wife and I would spend a month down there usually. The conference was in late January and February, and so we would go to Johannesburg and Cape Town and then travel – I loved going to the game parks, so we would do that. And most of the attendees were mining-type people, so you'd have a guy sitting next to you that's running AngloGold or Harmony Gold or something like Gold Fields or one of those kind, and you begin to learn a lot about it. I eventually was on two boards down there.

**KD:** Are you still on boards of the hedge funds?

**BL:** No, I've gotten off the boards. I'm on one board other than our company that's a private company, a very good friend of mine. I've been on his board for a while. But I've cut back. My wife didn't want me – part of the problem with the South African boards is the meetings are in the middle of the night. I'd have a committee meeting at one in the morning. Well, you know, by the time we got through all the meetings and everything, I wasn't going back to bed, and at night I wasn't very good.

**KD:** Is there anything else we should talk about that we haven't covered?

**BL:** A very general statement, I guess, that later when I was living in Colorado I got to know the dean of the business school at the little college in Durango called Fort Lewis. It's part of the state college system. And he asked me to teach a couple of classes up there, not for compensation, because I wasn't interested in the compensation. So I taught a class on electronic trading. And then one night he was over at our place having dinner and he asked me, he said, "You're always creating things. Would you be willing to teach a class on creativity?" I said, "Yeah, I'd love to do that." So this may sound like a funny hobby, but one of my hobbies is creativity. I've studied it, I've read probably at least fifty books, probably more.

There's a process and a methodology, and I enjoyed that immensely, and teaching it. I still read books on creativity and I still practice it, and I teach it to friends of mine. So Terry and I, about every six months, hold a three-day brainstorming session and we usually invite one or two outsiders to attend. Not the same ones. In other words,

different people. We're always looking for a new view of something. So for instance, we had a guy from China come over and spend the weekend with us. Now, we were lucky because he had gone to USC, so he spoke English. A little bit tough, but he had a PhD. Very sharp guy. And we invited him and he came over, so we spent three days with him.

So I'm going to give you an example, because this actually happened. On Friday, we kind of talk about the general areas that we want to try and be creative in, and on Saturday I gave – well, he gave a talk, which I didn't fully understand and I asked him to expand on it because I said, "I'm sorry, I just don't quite get what you're talking about." And so since he's a professor, he was very good about coming back and teaching me. Well, eventually, I got it. I said, "Okay, I think I have it." And theoretically, it was a pretty advanced idea. Let me just put it that way.

So I then said later in the day, actually it was at dinner, I said, "Just for fun I want to share with you guys a method of being creative, of encouraging your creativity to come out, and to either invent something or write something or whatever it is that you're trying – or solve a problem." And I said, "What I do is I take a piece of paper and I write down words that have some connection, not tied together, but some connection with a general idea that I'm trying to solve. And so, think of it as a scattergram, almost. They're not tied together, and I don't want you to tie them together. And right before you go to sleep, I want you to pick that piece of paper up and just look at them. Again, don't try to solve anything. Just look at them, and I'm going to tell you why I want you

to do this. You will feed your subconscious when you do that, and when you feed your subconscious with the raw material, often, in the middle of the night, you'll have a breakthrough." And I said, "If it happens in the middle of the night, turn the light on or go into the bathroom if you don't want to wake your wife up or whatever, and turn on a light and write it down so that you don't lose it."

Well, I had that happen that night myself with the Chinese guy's thing, and something that I knew from twenty, thirty years ago. So I took something from thirty years ago and combined it with what he had taught, and at breakfast I said, "I can't wait to tell you guys I had a breakthrough." And I said, "You will all know this could not have happened except last night." And so then I told them what had happened. I said I took – I can't think of this guy's name right now. Well, whatever. I said, "I took his idea and I merged it with something I've known for thirty or forty years, and I brought it together and here it is."

**KD:** Something new.

**BL:** Something new. And I constantly am doing that.

**KD:** Well, that's great.

**BL:** And for you, who's a writer, it also works, same thing.

**KD:** It's a process I know, yes.

**BL:** Oh, okay, so I shouldn't have been talking –

**KD:** No, no, it's great to hear someone else talk about that.

**BL:** Yes. Well, I was teaching at a college for a funny reason. I spent time in China, and my nephew lives in Beijing, and I noticed that – this is a generalization, of course, that whenever I've gone over there and talked to Chinese businessmen, the one area that they seem to be lacking in is what I generally would call creativity. They can copy anything. They can make it faster, cheaper, better, whatever you want, but they don't come up with the original idea. Or they have the same problem with marketing. They don't conceptually understand that.

And so, I was teaching a class on creativity for college students and I said, "Look, you have a choice. You can work for fifty cents an hour at your competition or you can work for \$100 an hour, \$200 an hour, or a million dollars an hour if you can invent something. There's no limit to how much you can make. It's your choice. You want to work for fifty cents an hour? Go for it. Use this." I mean, that's the big advantage America has, we have a culture that encourages that. Use it.

**KD:** Right. Well, and you've taken advantage of that.

**BL:** I have. Oh, I know. I'm a beneficiary of it.

**KD:** It's been a great story and I appreciate going through it with you. It's been marvelous.

**BL:** Good. Well, I've enjoyed it.

**KD:** And now I get to go put all this together at some point and try to be creative as well. So thanks very much.

**BL:** All right. Thank you.

[End of interview]