

STEPHEN SPRINKLE

ORAL HISTORY

COMPUTERWORLD HONORS PROGRAM INTERNATIONAL ARCHIVES

Transcript of a Video History Interview with Stephen Sprinkle
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A Child of the Bronx

DSM: Let's begin with you stating your name and telling us when and where you were born.

SS: My name is Stephen Sprinkle. I was born in March of 1952 in the Bronx, New York.

DSM: Tell us what it was like growing up in New York in the 1950's

SS: The environment was a very social one. In fact it represents a great difference with current American society. Parents after a days work, particularly in the summer, would gather outside. So outside the apartment building you would see lines of folding chairs. Neighbors would socialize with each other in the evenings, and kids would play up and down the sidewalks. People noticed each other and interacted with each other much more than we do in contemporary society where the homes tend to be more separated and people live a much more hectic scheduled life.

DSM: Tell me about your parents.

SS: My father grew up in West Virginia and served in the Navy in World War Two. He came to New York, completed 2 years of college and went to work in Manhattan. My mother was the daughter of Italian immigrants. My parents met at work and I was their first child.

DSM: Do you have brothers, sisters?

SS: I have a younger brother and a younger sister.

Early Schools & Struggles

DSM: So you started school in New York?

SS: I went to a public school in the Bronx. It was an old building but it was, as best I remember, a good school and actually quite rigorous. I didn't do well at first though. I was nearsighted. I had undiagnosed myopia and my chair was not near the front of the room. So I would fail spelling because I would copy the spelling words off the blackboard and memorize them and repeat them on the test, but because I didn't see them clearly I would substitute B's for D's and B's for A's, E's for D's and all sorts of other things.

DSM: Did you actually learn to read in school?

SS: Yes I learned to read in school. There was nothing about me that was particularly early or significant when I was a youngster.

DSM: Are there teachers that you remember from your grammar school experience? We're going to talk about a high school teacher a little later on I know.

SS: My general impression of the teachers in the Bronx, which was first and second grade, was that they were thorough and caring, but they were pretty rigorous. It was a disciplined environment.

I can also remember that one day a week in the afternoon they released us early and we marched off to religious education, different groups of students going off to typically either Catholic or Jewish education at the time. So you would spend the afternoon with the nuns and that was rigorous. Of course I was at a disadvantage, my last name began with an "S" and when they took attendance at the end of the session they would call each person's name and you would have to say if you were there. They started with the "A's" and they ended with the "Z's" every time, so I was one of the later ones to get out. I always wondered why they didn't run the list in reverse order once in a while just to give us a break.

DSM: So you're growing up in the Bronx and it's a classic era of Yankee, Dodger baseball, but when you're 8 you move to Long Island. Was that a big change?

SS: A huge change. My neighborhood in the Bronx was not one with a big emphasis on sports. When I moved to a subdivision on Long Island, there was a much bigger emphasis on sports and I wasn't much good at it. Eye-hand coordination is one of the things that I do least. In little league I had a zero batting average. I would tend to be the last one picked for a baseball game, and baseball was the primary sport back then or stickball, which you played in the street with a little round red rubber ball. So I didn't get very far on my athletic ability. Then as I got into my early teen years I was a great embarrassment because of course you wanted to show off in front of the girls, which I couldn't do.

DSM: I was going to ask you about sports, particularly when you got the first bike.

SS: I had a bicycle when I lived on Long Island, but bicycling as a sport is something I got involved in relatively recently. This is an older age sport for me. I started cycling seriously a year and a half ago and now my interest is long distance bicycling.

Of Microscopes, Mentors & Moon Landings

DSM: One of the questions I like to ask is about early signs of what you were going to do later. Were there signs that your parents used to tell about you when you were a kid, or things that you remember that gave you any hint that you were going to be involved with technology?

SS: I think when I was younger there were signs that I would get interested in science. By the time we had moved to Long Island when I was 8, I think I was exhibiting an interest in biology primarily. So the guess was that I would probably do something that had to do with science.

One of the neat devices they had in elementary school was a projection microscope, which they used to project onto a full size screen, images from a microscope. I managed to be so interested and creative with it that I got to be the one who would find all of these different samples, investigate what they were and then project them onto the screen for the benefit of the students. I had a great time doing that, identifying all kinds of single celled organisms and then bringing them into the classroom.

DSM: So you started high school on Long Island and it was a transformative period for you I gather.

SS: Yes, I enjoyed high school a lot. There might have been 14-hundred students in the high school. It was a brand new high school called Commack High School South. It was located in Commack, Long Island in Suffolk County. It was an area that converted to residential from what previously were truck farms, mostly potatoes and cabbages. It was a fun time for me. First, I enjoyed the choice of subjects immensely. You could take some advanced placement courses, so towards the end I did some college level things.

I had a great science teacher at one time, an individual named Shelly Harrison. He had a PhD in physics and he was one of those people who believed that the shift that had occurred while I was going to school away from rigor toward a softer, more philosophical view of education, with less emphasis on math and science, was actually pretty detrimental. So even though he had a PhD, he came and taught high school. He was superb. He was a grand influence. He led you to believe that you could do more than you thought you could do. He was also someone who would sacrifice for things that he believed in. So he was a great influence on me, and he was one of the reasons I became much more intensely interested in science.

DSM: How did you run into him?

SS: He was just one of the teachers in the classes. Turned out to be a great set of relationships over time because he ended up being a professor in the same university I went to. I worked for him as a research assistant for a while and enjoyed that very thoroughly.

I also want to tell you about one thing that occurred earlier in life that sparked my interest in science. I had a godfather who had no children. So he would spend time with me because he had no children. He was a draftsman for an aerospace company on Long Island, a military defense contractor. He would always bring things to me and they were about aircraft, space travel, geography, and the earth whatever. So that was another strong influence towards science.

DSM: You were in high school and this was when?

SS: I graduated in 1970.

DSM: We're talking about the era of the first moon landing?

SS: Yes, I can remember we had videotape of the moon landing that we could look at in the high school library. The other thing that happened in high school that was a blossoming event, was I actually ran for election as the student council president, and big surprise, I actually won. I wouldn't have categorized myself as a particularly popular student before then.

Speaking Out, Civil Rights & Vietnam

DSM: Why did you win?

SS: Well I did something different in the competition. One thing I am reasonably good at is public speaking. The other people running for election each got to give a speech in front of an assembly of students, and they typically started out the same way you know, "Thank you Mr. So and So principal. Thank you to the teachers. Thank you to the students," and then they talked about themselves. It was very low key, and it was kind of boring, frankly. So I simply got up and did something entirely different. I opened the speech without thanking anybody. You have to remember that it was a brand new high school. We had all moved into a new facility, and at that time the oldest class was juniors instead of seniors. So I looked out at them and said, "If we don't amount to much, we'll have the perfect excuse. It's a brand new school. In fact it's not physically complete yet. So if we don't have an adequately functioning student government, if we don't have social activities, if we don't have the boosters we need for our sports teams, if we don't have any of the events, or even a partial amount of the events that other high schools do, it's perfectly understandable because it's brand new. The only problem is that by the time you get it all, some of us will be gone. So do you want to take things slowly, or do you want to say to yourselves, we're brand new and we're going to do everything anyway?" That was the whole promise. I then I discussed how we could do things immediately.

DSM: One of the other questions I always ask is about best friend and/or rivals during those high school years. Are there any folks that stand out for you at that time?

SS: I had a close group of friends. I would say we came from working class backgrounds. When we were in high school none of us were going to be sent to a private college. In fact probably none of us were going to be sent to a public college where we lived. The means just weren't there. So we all knew that we had to do it all ourselves. So you had to work as hard as you could to get into a good public university. You had to work as hard as you could to get a scholarship. You were probably going to commute to school, and a small group of us did. We were friends in high school and we were friends in college, and I would say somewhat subsequent to that we've kind of dispersed around the country a bit. But it was a do-it-yourself mentality, and for many of them, they were the first generation to complete a bachelor's degree. And for almost all of them, they ended up accomplishing more educationally and with their career than their father's did. And by the way, their parents probably did more than their predecessors' generation did also.

DSM: Well that goes back to your Dad, this must have meant good times for him, moving from West Virginia, going into the Navy, going to the Bronx and then into Long Island. What was he doing during this time?

SS: He worked for a firm in Manhattan. I would say in one sense it was good times because they ended up with something that was maybe more than they thought they could afford. On the other hand I would say it was a bit of a hard time. These were the years when inflation started to become prevalent, and in that particular part of the country taxes were severe and rising very rapidly. It was the time of unionizing of the civil service in New York and the surrounding suburbs. So teachers' salaries, firemen's salaries, all public services were rising dramatically and property taxes rose dramatically. Also because of the influx of people they needed to build new schools. So I would say the drawback was, my father and his neighbors probably found that what seemed affordable earlier, became less so over time because taxes increased so dramatically.

DSM: This was also a period while you were in high school and in college, of the nation's civil rights movements and increased involvement in the Vietnam War.

SS: I wasn't touched by the civil rights movement, mainly because there wasn't a large minority population in the area I grew up in. The area I grew up in was more like; you ask somebody you meet, "Well, what are you? And the answer was usually, "I'm Irish, Italian, Jewish, Polish." It was still the immigrant mentality inherited from New York City. The anti-war movement was significant but we were probably a pretty conservative locale, so there wasn't a terribly large degree of activism in high school. I did go to a public university that was extremely liberal, extremely radical. I frankly was an outlier so I kept my head down and did the best I could in my studies. I played little or no role in either the social or political life of that campus.

DSM: Was it Shelly Harrison that led you to Stony Brook?

SS: I went to Stony Brook because I could commute to it, because it was academically rigorous. There were Nobel Laureates on the teaching staff and it had a variety of subjects that I might be interested in. Its social context was not one that I particularly enjoyed and I probably wouldn't recommend it. I wouldn't have in those days recommended it to others simply because I tended to be more conservative, and more community and home life culturally oriented than many of the students there who frankly believed that even though they were only undergraduates, they knew enough to change the world. I didn't think they did then, and I don't think an undergraduate knows now enough to change the world. That's my personal opinion.

Which is distinct from the Vietnam War itself, and my opinion was that it probably was a poor strategy and a sacrifice we didn't need to make. On the other hand some of the anti-war protestors I think went well beyond simply objecting to that war. The remaking of society I think was an excessive consequence.

DSM: Tell me about this carry-over with Shelly Harrison. When did you find you had an aptitude for math and physics, because those are things that many people just avoid like the plague?

SS: Generally speaking I did well even in junior high in science and mathematics courses. So I was going in that direction anyway. I had another talent, which was that I was a good public speaker. Sometimes I hesitated in my mind and said, gee, instead of becoming technical, what if I tried to do something that involved public speaking? One person at our high school did that. He's a sportscaster named Bob Costas. He's on NBC. In fact, one funny anecdote, when I went to a high school reunion I think it was either 10 or 20 years, and a lady I didn't recognize confronted me and said, "Well, I guess we were wrong." And I said, "What do you mean, 'We were wrong.'" And she said, "We elected you most likely to succeed. It should have been Bob Costas." (laughs) That was a warm welcome to the reunion. Bob Costas and I actually exchanged notes recently because I was featured in a magazine on the consulting industry. He had seen it and we exchanged notes.

DSM: Did you ever compete in public speaking while in school?

SS: No. We had a public speaking course, which I took, and in my role as student council president I would get up and make speeches from time to time. It's amazing. I guess most people are fearful of public speaking. The majority of the population finds it terrifying and for some reason it never bothered me.

DSM: When did you learn that you could do this?

SS: In high school.

DSM: Was that the first time you ever had to do that?

SS: The first time in front of a very large audience was probably when I was running for student council president, and I took that risk of doing something completely out of the ordinary. I think one of the most intense times I ever had to do public speaking was for one of our assignments. We had to give a speech on the Vietnam War, what we thought about it. This was in high school, and I actually had to take a very odd position to oppose the war but not endorse all the behaviors of the protestors. So I had to weave a very delicate balance between the two, because I did believe the war was a mistake, but I didn't believe in everything the protest movement was doing.

I used several examples. Khe Sanh was a major set of battles that occurred at the time, and that was probably the most emotional speech I had to do up to that time. I remember my ending phrase was, "Some of our people will come home in pain, and some will come home and never feel pain again."

DSM: Did you lose friends in Vietnam?

SS: One was in a B-52 that crashed.

College = 3 Degrees in 4 Years

DSM: We're going to talk about the 11th of September a little later because I want to talk about that in comparative terms. Back to college, you're doing very well and I gather Dr. Harrison ran the consulting firm you worked at?

SS: Let me explain how this worked. When I decided I had to put my head down, I did, pretty intensely. Depending on what time it was, I would work one or more jobs because I was pretty much self-supporting while going to college. I had a regent's scholarship, which paid tuition so I could carry my living expenses. In my junior year my parents moved to Atlanta and I had been living at home so it was pretty affordable, but then I had to move on campus, and then later on to a house off-campus. That was a much bigger challenge, to suddenly find yourself confronted with the expenses of living off campus when you weren't planning on it.

Nonetheless I kept my head down, and I basically did some unusual things in that I had various jobs, some working for Shelly Harrison's firm, which was Public Systems Research Incorporated, but I also was a teaching assistant in the department of economics. I had several other outside jobs at various times, but I guess I was a bit of a fanatic. I actually completed 3 academic degrees in 4 years, Mathematics, Computer Science and Economics. I was inducted into Phi Beta Kappa, the National Honor Society and I was effectively the valedictorian of the School of Economics.

DSM: Sounds like a good 4 years.

SS: I probably over did it.

DSM: I can understand Applied Mathematics and Computer Science, but how and why Economics, and what happened to public speaking?

SS: Well, public speaking basically went to sleep. I didn't use it at all in college, not at all. What I had in the back of my mind was the application of technology in business problems, and so economics was the closest thing offered to business on that campus.

DSM: Ah, and you had that exposure working for Mr. Harrison in his consultancy firm.

SS: And his whole consultant's firm had some interesting characteristics, like one of the professors who was involved with it was named Schwarz, who went on to be involved with a firm called Symbol Technologies that did bar coding, which is still popular. So you were exposed to a lot of leading edge ideas, but I always had this Renaissance-man view of the world. When I went to college I looked in the catalogue and it was wonderful, all the different topics that you could learn something about. My strength had always been drawing connections among things that people wouldn't have otherwise recognized. So being versatile enough to have multiple majors and to find their cross-applicability is what interested me. I had some aptitude for that, and that's what I enjoyed.

DSM: We were talking about problem solving abilities and relationship establishing abilities and talking about the evolution of this, tell me about that history.

SS: I suggest that in my personal history there has been a mix. Most of my work in high school was problem solving oriented, being given problems to solve by teachers, but some significant portion was people oriented in my role as student council president. I would say when I was in college, an undergraduate, it was almost all problem solving. I wasn't playing a public or relationship role. Out of college, I went to work at the IBM Corporation as a systems engineer, serving clients. I would say it was about two-thirds problem solving, and about one-third client relationship. When I became a consultant, it was initially two-thirds, one-third, but then as I became more senior in the firm, the people proportion became much bigger. Now as a senior partner in the firm, my primary responsibility is to coach and mentor other partners. So it's dominantly people oriented now.

Computers in the 'Stone Age'

DSM: For a graduate student 300 years from now looking back at this crude time, describe what it was like being a computer science major when it was a new major in college.

SS: To tell you how funny it is, my freshman year we did our work with log scales, the physical slide rules. By my junior year we were using calculators, scientific calculators. In my junior year, to learn how to do things like use the simplex algorithm to solve a linear programming problem, you actually worked a spreadsheet with your calculator and did the iterations.

By the time I was a senior, you were writing fortran programs to do that. So there was a progression. Early in my time at the University you were keying punch cards for submission for batch processing and get your reports the next day. Probably about mid-way through they got a Digital Equipment Corporation Deck System 10, which was one of the first interactive machines even though it was a very slow, teletype kind of interface. So you were just on the cusp of waves of technology being applied but there were, compared to anything we have now. Quite rudimentary graphics was basically unknown and you were solving simple problems without a great deal of reusability of anything you produced.

DSM: In the days when I thought of being a physics major, there was a great debate whether or not using calculators as opposed to slide rules was cheating or not. Did you hear that?

SS: No, I actually thought that switching was good because you could knock a slide rule out of alignment easily just by dropping it. We even did things like; we built operating systems and various supporting pieces of software for small 8-bit homemade computers. So it was an interesting time.

DSM: What was the first computer you really took personal ownership of?

SS: Well at school they were all shared. I remember that the university had all IBM 371-55's and a Deck System 10. As far as a computer in the house, probably the first one I had was a PC Junior, which within about three weeks I had to take the covers off and put a bunch of expansion stuff on it from other parties to get it where it was powerful enough to do something.

DSM: Did it have the chicklet keys?

SS: Well they traded those in for free, thank goodness.

The World According to IBM

DSM: You graduated from Stony Brook in 1974 with three majors. You were Phi Beta Kappa and had worked with a teacher that you have admired and respected since high school. Did you ever give any thought to being an academic?

SS: No.

DSM: Why?

SS: I have to rephrase that. I did give thought to being a teacher for a while, but I'm not sure I ever took seriously the thought of being an academic for the long term. Something about me wanted to have more hands-on than the academic environment might allow. I wanted to be out there in the world, being more risk taking or being more leading in terms of what you get done.

DSM: You make the decision to go to IBM. Did you find them, or did they find you?

SS: I did a bunch of interviews with a variety of enterprises, and at IBM I actually had two different interviews. One where they came to campus, which was a position in a development laboratory up in upstate New York, and another one through a friend of my father's or actually a neighbor. He was an engineer for IBM and asked me would I have any interest in that. He got me an introduction to the local office, which happened to be on Long Island, and I ended up working there.

DSM: Who hired you?

SS: Oh, I should remember his name! He was a famous salesman at IBM. I can picture his face but I can't remember his name. He ran the aerospace and defense project for IBM on Long Island, which at the time was pretty big. He was quite a character.

DSM: IBM in the mid-1970's was less renowned for the quality of its technology than the quality of its training. Tell about becoming a new IBM employee in the mid-70's. This is a great job for a young guy to go into.

SS: I would say joining IBM then was good because it was the computer industry to a significant degree. It might be like somebody joining Microsoft more recently, but it was even more dominant in the sense that it was hardware, it was software it was applications, it was all sorts of things all wrapped up together. What I liked about it was it was a good set of educational programs, both classroom and self paced teaching using video tapes and the like. Basically you were going to learn quite thoroughly, the architectures of the most popular computer systems used in business in the world. So it was a very valuable experience and I enjoyed it because you not only learned and applied what they already had, but there were also some circumstances where you got to extend it.

One example is an experimental project we did with a client on Long Island called Grumman Aerospace. We built one of the first high-speed local area networks in the world. We used several different technologies, one of which was cable television. Around their several mile square campus, we ran a local area network before the word was ever in vogue, and used it for the purposes of connecting computer aided design terminals at various places in the facility. So they design aircraft where you have pictures of parts that you rotate and do all sorts of things to, but the workload moves from building to building, depending on what stage of design you are at. So they needed the ability to uproot a set of technology and move to another place plug it in, or for engineers to share this information in remote locations. So, IBM custom designed a set of technologies to allow those interfaces to occur using experimental things, and it basically worked! We were able to put, on two different cables, using two different technologies, 220 channels of a million bits per second each. Well, that was unheard of at that time.

Even today, how many local offices are running 200 million bits per second? Not very many. So it was a very exciting time, but it also taught me that there are always 'gotchas.' I can remember the meeting when we had executives and engineers from both sides. We were going through the implementation plan and one of the engineers is revealing the mechanism by which they were doing what was called 'polling' on the line for control. Now I'm sitting there, the youngest person in the room, and I recognized that there was a flaw in the design, that in fact the polling mechanism wouldn't work and the timing would fail. I had to then go back, get our leadership and say, "I think there's a flaw. This won't work and here's why." At first they didn't believe how I could know that. Then they just didn't want to believe it because this is on its way to being a very successful project. I eventually convinced them to at least do a test of it and the flaw did exist. It required a substantial, significant redesign, but then it worked fine after that.

The Origins of Integrity

SS: Every so often I feel odd because there will be some circumstance where everybody wants success. There's a design that's appealing and there's popular motion behind it, and every so often I'll be in a circumstance where I'll say, "Wait a minute, this won't work." It's a terrible job to be the person who recognizes something won't work and then reveals its infeasibility.

That's another thing that happened a few times in my life, where you recognize something isn't right, isn't going to work, and you have to have enough evidence to show that you are right and you have to have the courage to deal with it because it doesn't make you terribly popular.

Willingness to deal with truth is another characteristic that my parents had always brought me up with. I would say that if you look at the defining characteristic, it was personal integrity and I think that's carried through. And sometimes you can be wrong. Sometimes you can bring up an issue and turns out in the testing it's not really the issue you thought it was. But there is a natural tendency in social groups, particularly if they're working on a project headed towards major completion, at some point you know, hope does take flight and you have to be careful.

DSM: You raise an issue that I want to talk about which is, the concept of integrity and honor and whom you found those in. For you, it was your father and mother?

SS: Yes. My mother's derivation of it was from a religious upbringing. She was Catholic. My father's derivation I don't quite entirely understand, but I know he would never willingly do something unethical. He's more than willing to sacrifice fame, fortune, whatever it takes for the sake of integrity. You also had the reassurance that even if things were difficult or the times were lean, he gave everything he had to his family. He kept almost nothing for himself. I would characterize my father as someone who was very thorough, very prepared, very high degree of integrity. I would say he was the opposite of a risk taker.

DSM: Did you know either of your grandparents?

SS: Yes I knew them. My grandmother was an Italian immigrant who married my grandfather here in the states. She was illiterate, never learned how to read and write. She did learn to speak English but didn't learn how to read and write. Her husband was a very determined self-made man. They had seven children and he did the best he could for them. He did go bankrupt during the Depression but he yielded to almost nothing. He had a domineering will and was extremely physically strong even though he wasn't particularly tall. So his image in my mind is this self-made, tough immigrant.

DM: What did he do for a living?

SS: He started a bakery in New York, and the bakeries did fine until the Depression got so bad that restaurant sales went down, and restaurants were closing all over the place. He finally got consumed in it, but then sometime later he restarted and was much more successful at it after that time.

DM: How about your Dad's side, is his family in West Virginia still?

SS: Yes, my Dad is the last of 11 children. His mother was 48-years-old when he was born. His father was 52. His father was a towering man, probably 6-foot-two who worked for the Norfolk and Western Railroad in Bluefield, West Virginia. He was the foreman of the round house where they repaired steam engines. My grandfather was probably very stern and very strict, but again, he was trying to raise 11 children through the Depression. It must have been very difficult especially when the railroad put them on half wages.

The IBM Environment

DM: At IBM in the mid- 1970's, those were the days, at least in legend, where nobody was fired at IBM, although missed goals did lead to extensive commuting – is that true?

SS: I don't know if that's true. I do believe that they were motivated by liberal business and political ethics; meaning they wanted to advance the interests of women, they wanted to advance the interest of minorities. They tended to enforce fair behavior with suppliers and not use undue pressure on suppliers. They took great pride in being the firm that didn't have layoffs during the recession, and they treated their people well in terms of benefits and respect for the individual in the workplace. So you were not subject to intimidation. The behavior of leaders was well prescribed, so they would behave well. On the other hand it probably wasn't an environment that would make a risk-taker enthused, and it wasn't a place where you were going to make a fortune. Based on what I knew of compensation among my friends and I, I would say IBM ensured that they paid average, not better than average, average. But you had this social environment, excellent health care plan, excellent benefits of all sorts.

Now did things come apart a little bit? Yes, I can remember when they announced the PC was being produced and they had outsourced the production of its operating system to a firm that most of us had never heard of. I have to admit, I scratched my head and said, "I thought we were the largest software producer in the world. Why couldn't we write the operating system?" Of course that's one of the most amazing transactions in history. Various people have differing opinions; was it to IBM's advantage or disadvantage that they contracted for that operating system but did not keep its licensing rights? Some people say that's what made the PC successful, and other people say that's what made IBM unsuccessful during the subsequent 10-year period.

Deloitte: An Intellectual Cornucopia

DM: Extraordinary time, and was it during this time you made the transition to Deloitte?

SS: I had started work on an MBA at night at Adelphi. I had been going for about 3 years. This was about 1977, perhaps 1976 and I liked that because it really was grounded in business and I wanted more business education. I wanted to have more opportunities in terms of career paths and I got a bit impatient. At one point I decided, "You know, I think I'll just become a full time student there and finish it rather than letting it go on." So I approached IBM and said, "You know what? I want to get a leave of absence so I can become a full time student and just wrap this up." I pretty much felt that I had finished my tour of duty there. I was a systems engineer at IBM originally and then I was a marketing representative. I had been a marketing representative for two years and I had made my quota both years relatively early and I just had this feeling, "Okay I did those things," and I would rather go ahead and get the MBA thing done.

I also had an interest in trying something outside of the New York area because that's where I grew up. So I got my MBA by being a full time student for a semester. I think graduation was probably in March, of 1981. I may have started part-time as late as 1978, I don't really remember. So I finished, got my degree, and IBM graciously offered me a job. I could be an engineering products manager in Chicago. And then I simply did some surveying of opportunities at various places and the opportunity presented itself at Deloitte in Atlanta. My parents were in Atlanta. I always like visiting here. I had never lived here but I would go visit my parents at Christmas time, and I can always remember the flights back and landing at JFK or LaGuardia, and it would be January and it would be 12 degrees and the door locks would be frozen on my car. So Atlanta just seemed appealing, a change of pace. So between the ideas of being a consultant, which seemed to be an intellectual cornucopia of opportunity, and the change of pace and lifestyle, I moved.

DM: Let's talk about your transition to the south. Atlanta is not only very different from New York in terms of weather, but it's a very different social life. Was it difficult?

SS: First of all it wasn't hard because there was a substantial influx of northern immigrants to the Atlanta area. So when I would meet people there was a 50% chance they were native, 50% chance they were from someplace else. I was also familiar with Atlanta from visits to my parents. There are also some nice characteristics to it. New York city in 1981 was a pre-Rudolph Guiliani New York City. Public services didn't work so well, graffiti was everywhere, crime was pretty rampant. It just wasn't the desirable social environment that it has subsequently become. So it was a pleasant change. Of course another good thing is that I don't have a New York accent.

DM: You have no accent at all.

SS: Which is strange isn't it? I think it's because my father has a southern accent and my mother has a New York accent and I came out somewhere in the middle.

DM: So you joined Deloitte and it was your first job as a consultant. Who hired you?

SS: Well, there was a group of partners that interviewed me. The managing partner was a guy named Terry Ellis, and another fellow named Andy McKenna. I think they actually argued about me because I subsequently heard that Terry thought I should be hired, and Andy argued against hiring me. Although later on Andy became the leader of the office and I think was a big supporter, but I think at first he wasn't sure I was cut out to be a good consultant.

DM: Was Deloitte a big change from IBM?

SS: Oh it was night and day different. It was culture shock for 6 months because IBM was such a large enterprise. It had had a domineering market share for so long that most of what you had to do, had somewhere else been experienced first. So there were policies, procedures, manuals and educational content behind almost everything you did. So your job was to deliver the message or solve the problem. You tended to be the delivery mechanism for massive investments made by a big enterprise. You didn't tend to be the creator of the message. Your job was to be as good at execution as you could, but you were not the designer, you were not the creator in most cases.

The other funny thing about IBM, it had been so successful for so long that my personal observation was you couldn't tell which individuals were making what contribution to the enterprise. If they dressed well, if they spoke well, if they said, "I'm for IBM," they were from IBM. Now, whether 'Person A' contributed more than 'Person B' was not discernable because the brand was so powerful.

I get into the consulting business and it's an industry at a much earlier stage of development. There's no dominant player. There's ease of entry, and I'm shocked to find that when I would say to somebody, "How should we do this?" they would answer something I would never imagine. They would say, "Well, how do you think we should do this?" This being forced to think and collaborate out to a conclusion was an entirely new experience. I was used to standing on this giant platform with the title IBM on the front, and now I'm actually walking on the ground with clients and with my fellow consultants, making things happen. And I'm responsible, not unilaterally responsible, we work in teams, but the teams don't assume that you just asked the boss how to do this. The teams assume you're being paid to be very intelligent, creative and bright, and you're going to collaborate and you're going to discover sources of information and you're going to end up having learning experiences of discovering what the right thing to do is.

DM: Who was your first client, or the time when you definitively faced the reality of this new environment?

SS: My first client was in Dallas, Texas. It was the Dallas Transit System. I worked there for 18 months. It was a public sector job but they had unique challenges to deal with. As I remember we actually did something out of the ordinary there. They had some particular needs which wouldn't be typical in a commercial enterprise, and we found some creative ways to satisfy their needs by using a software package called Lawson Associates Software. Today it is actually a big software company, but back then it was a little one. You actually dealt with Richard Lawson personally. If I remember it right, we implemented it using Burroughs Architecture, and even though I was an ex-IBMer, the reason we went to Burroughs was that at that time their operating system was less dominant, but was easy to use. So in a public sector environment we could start their information systems organization with a smaller base of personnel and didn't have such intense competition to recruit people. Public sector pay scales didn't give you as much freedom to recruit people as the private sector. So we purposely picked a simpler environment with software package from a smaller vendor, which happened to have a few flexible features that we could make do what they needed to have done.

The Re-engineering Revolution

DM: So your first consulting job is in the public sector in Dallas. This is about 1981, 1982?

SS: Yes.

DM: And then you were promoted and begin working in textile and apparel.

SS: I worked mostly in information technology consulting, some in the public sector and some in manufacturing. In September of 1988, I became a partner in the firm. Leading up to that, I decided to focus on apparel and textile consulting because there was a concentration of those industries in the southeastern U.S.

So I basically initiated building a practice, which is something you could do in a consulting firm at that time that you wouldn't have been able to do in say, an IBM. I started doing research. I started doing surveys on the use of computers in the industries, and I interested two magazines, one in apparel and one in textiles to publish the results of these surveys. Then their two associated, competing publications each called me up and said, "We saw your articles about the surveys. What can you do with us?" So the two competing publications each gave me a monthly column with my picture on it. I could write on a topic, only one page each. Basically all four trade publications, two from apparel industry, two from the textile industry, had something from me authored in it.

I then used that as a platform for introducing our services to clients. I would call the office of a CEO where typically the assistant is trained to screen calls and not bother the CEO, which in most cases is appropriate, but I didn't think it was in this case. So, the person on the phone would say, "Does he know you?" I would say, "No." "Well we probably can't arrange an appointment." And I would say, "Well can do you me one favor? Do you get this magazine?" And undoubtedly they do because they all read it. And I would say, "Do you have July's issue?" She would say, "Yes." And I would say, "Turn to page 37. That picture is of me. All I ask is would you be willing to ask your CEO if he would like to have an appointment with the person who wrote that article? You can tell him that he can judge if it's worth his while by reading the article because then he will know how I think." So if how I think is helpful, maybe he would want to have an appointment." Overwhelmingly, in maybe 90% of the cases, I would get at least a lunch appointment.

I focused on that industry for a number of years and it was delightful because you get positive feedback from your work. You get a paycheck, but people recognize you. You get invited to give speeches at trade association meetings. You were credible and recognized as knowing some things that were useful to the industry. It was all wonderful.

DM: Did you work with Hanes?

SS: Fruit of the Loom went out of business and the side that I worked for was Sara Lee, which had the Hanes brand. It was Sara Lee knit products that we did work for. I did that in 1992. I was asked by the firm to build a practice and business process for reengineering which is a new discipline, kind of invented by Dr. Michael Hammer who is an MIT professor. I basically led an effort that developed our capabilities and qualifications in the area. Luckily, one of the case studies mentioned in Dr. Hammer's book, 'Reengineering the Corporation,' was actually a consulting client of ours where we did the associated consulting. We had done reengineering work before it was named, and Dr. Hammer in doing his research and finding similarities across multiple company environments, named it.

It turned out that we were quite successful. Computerworld gave us an award for being the reengineering team of the year for the best demonstrated results from a client engagement. We had an excellent relationship with Dr. Hammer, which we still maintain.

DM: And the whole concept of the business process with reengineering, at least from my prejudiced perspective, is something of a transformative period in the whole IT industry. Could you talk about some of the before and after?

SS: I would say that there have been waves that have had a profound effect on business thinking, and some of them have had a profound effect on how public governmental entities conduct themselves. Reengineering is one of those. My belief was, prior to the reengineering revolution, enterprises focused on having the best people and the best policies and procedures, segmented by functional departments and sub departments, and sub, sub departments. And the general theory was that if all their little pieces were good, that when they were put together to get some big piece of work done, it was good, because you had the best pieces.

What Dr. Hammer said simply was, the interfaces between the pieces are so prone to error, they induce such time lags that in fact, all the best pieces put together don't equal the best result. If you want the best result we have to define a continuous process that minimizes the involvement in handoff of the pieces, rather than maximizing that. That was a revolution. It changed the way businesses think about how to serve clients, how to procure a products, and how to manufacture things. This whole thought of minimizing the handoffs, that time is valuable, that the more time something stays in process, the more likely the customer will change their mind about what they want, or that it will somehow be damaged or in error, are key thinking that influence business thereafter. It enabled to a certain degree, the successful implementation of technology such as ERP product subsequently, and it currently influences things like the implementation of customer relationship management products.

So you look at what are the kinds of revolutions. Business product reengineering was one of them. It really caused people, and leaders in business to shift from an emphasis on what is that should mostly stay in place and let's make incremental improvement, to we should examine always what the ultimate should be is. I think it had a profound impact on the competitiveness of US industry. I think it also had a profound impact together with other things like deregulation and making businesses far more competitive, and thereby eventually defeating inflation, together with the actions of the Federal Reserve Board. The predecessor, the base level of inflation based on rigid business, was kind of blown away. You can redesign things.

DM: It really reminds me of your transition from IBM to Deloitte. It also makes it almost impossible to hide.

SS: The combination of deregulation, lower trade barriers and the greater availability of information, which was amplified by the Internet, those things together say, you don't have very far to hide. Then to top it off we saw the demise of several previous communist regimes. So a bigger part of the world is now a market economy world. It simply says that there are many more potential competitors and service providers, and it means a competitor at any place in the world can become a competitor in all the places in your world. So there's not time to rest.

Deloitte During the Dot Com Blip

DM: Something we skipped that I don't want to miss, the idea of becoming a partner in a firm like Deloitte is really a significant step and you did that in 7 years. Could you talk about what that meant?

SS: It's different than the experience in a corporate environment. The reason it's different is it involves a degree of empowerment that you would not otherwise find, together with a degree of moral responsibility. By the way, the legal form had transformed a bit, we are now principles in a limited liability company. Way back when, we were partners in a legal partnership, but the partnership culture is what we work very hard to retain. Some of our competitors are giving up on their partnership culture. We're not. What it simply says is there's an opportunity through your experiences at work to demonstrate that you are in fact a best expert and fully competent in a domain, and that the firm and its other partners, trust you with their livelihoods, with their assets and with the people inside the enterprise. Therefore decisions can be made by partners that in other enterprises get shifted to much higher levels in the hierarchy. It also means we don't operate with much hierarchy because in effect we trust each other.

So there are 840 people in Deloitte Consulting and any one of them could commit us to an agreement that could be very successful or could cost us a fortune. It's not like there's one, two, or three people making all the decisions, we're all making decisions, and it's an environment that's also a social institution, it's not just a business. You get to be a partner by demonstrating that you're very, very intelligent and you work hard and you are successful in serving clients. You get to keep being a partner by demonstrating that you are willing to sacrifice for the benefit of the rest.

DM: Did it become problematic at Deloitte during the hey day of the dot-com mania?

SS: It became a problem, but it was a most intriguing problem. It was intriguing because it was severely intense and frankly, it was brief, compared to other things we have been through. The real mania where people were being drawn out of our business for the hope of dot-com riches, was in reality only an 18-month period where we were significantly impacted by that, and almost none of those people had their expectations fulfilled. Almost all of them have to find different careers now.

It was also interesting because when it started, it was almost a two-pronged approach. On one hand we had to transform ourselves to be competent in this new environment. That meant we put every single professional through 40 hours of Internet education. They had to pass exams that they were certified in that and that was then supplemented by things that are relevant to their particular discipline. So some of them then would do further learning about strategy in that new environment, others about supply chain and procurement, others about customer relationships in an Internet environment, but everyone had to take the same base level education.

So we transformed ourselves, and at the time of the dot-com start-ups we felt threatened. But I will tell you that at the same time I gave to my CEO a couple of books to read, one which was called "The Internet Bubble." I also provided information that said that for all of these dot-coms to justify their stock valuation, they will all have to grow as fast or faster than Microsoft. They will also have to have profit margins as good as or better than Microsoft's, and the likelihood of that was very small. So we believed that was a speculative bubble, that there were good elements that business would put to use, but that it was something that was being over-invested in from the viewpoint of the economy as a whole.

The other interesting thing we learned is that it's hard to start a consulting business instantaneously, because many tried. There were companies like Sapient, Scient, iExcel, Diamond Cluster, and we discovered four or five hurdles that a consulting firm has to get over to be viable over the long term. One is, you can't just be in the U.S., you have to be global. Well, it takes a long time and a lot of money to set up operations in multiple countries and actually have people that work well together across cultures. Two, you have to develop in-depth industry expertise, that takes time. Three, you have to have client relationship personnel that can relate to the senior leadership of very large complex organizations. Well that doesn't happen quickly either. And fourth, you have to demonstrate that you can go from one generation of technology to the next. So when the original technologies were business-to-consumer focused and the market started to slip to business-to-business, that created for the dot-com consulting enterprises a massive requirement for training and new learning. So they basically tried to do four or five new things at once, go global, have industry expertise, have senior client personnel, and flip from B2C technologies to B2B technologies. There were too many changes in a short period, and that's why so many of these business consultancies have downsized, merged or gone out of business.

Innovation in a New Era

DM: So during this intense activity, re-education and refocus, you are steadily moving up through Deloitte.

SS: The changes in my role went like this; I led re-engineering and then two years into that I was asked to lead Information technology consulting. I only had the job for two or three weeks and I went into the CEO and said, "I would like for us to do a major acquisition and build a big ERP practice based on the SAP product." And they were scratching their heads and said, "How did you know that so fast?" And I said, "Well, I'm not sure but it looks like it's going to be a major wave. We need to improve our capabilities." So basically we were probably number four in that market and we acquired an independent consultancy, which was number three, and we did a lot of very creative things organizationally. Instead of simply absorbing them into us and then maybe killing their spirit, we actually created something called ICS Deloitte, which was the combination of a firm called ICS and Deloitte Consulting. We operated as a semi-autonomous but related business and initially left in place the leadership from the acquired company and told them we wanted to focus on the ability to implement enterprise-wide, a complex, packet software, and they were extremely successful at it. So a business that perhaps had \$68 million in revenue in 1995 had around a billion dollars in revenue in 2000. That's about as good as any dot-com could hope to be. We had our own version, but focused it in a different way. We created that. It was very successful.

The firm as a whole was growing 30% or more each year. They were great times. Then I was asked to lead the Service Line function, which didn't exist previously. Previously we had our people aligned by industry and geography, and we created a third dimension using service lines. It was each one of the intellectual disciplines about which we consult, and the objective was to do the research development training and marketing so we would be a superior provider in every one of the disciplines in which we consulted. So not only did I do a re-engineering but in ERP implementations I dealt with custom software development, strategy consulting, operations improvement, all these different disciplines, and during that time we also pruned back to a smaller set. We would rather be superior in a smaller set, than not as good in a bigger set. We introduced some new ones. One of the most interesting ones we introduced was something called, 'Program Leadership,' which we invented. Program leadership is an amazing topic. It doesn't generate a lot of consulting fees but it generates tremendous value. Most consultancies and many clients know how to operate and complete successfully, a single project. What there is very little good technique for, and good understanding of is, how do you manage all of the change initiatives that might be underway concurrently in a large-scale enterprise? The answer is, it's generally not done well. They in fact collide. They compete for resources. Some of them have competing objectives. They may be an infeasible set.

We have actually pioneered a set of disciplines and tools to operate for a CEO what's called a 'Program Office,' which basically is the oversight over all of their change initiatives to ensure that you only launch the ones that make sense. You launch the ones that are synergistic together. You defer them from competing with one another and you actually realize the benefits from all of them. And there are times in a company's life when what you are doing requires more intense use of this discipline. For example, when Merrill Lynch decided to provide on-line brokerage capabilities, when General Motors decided to spin off to its parts supplier, Delphi, or right now as Hewlett Packard and Compaq are merging. So this kind of discipline where you have to manage a tremendous number of moving parts, which you could individually define as projects, but if you leave them alone they will end up colliding and some percentage of them fail, it's a unique discipline that we invented.

DM: And again, given your background it sounds a lot like process engineering plus resource planning moved to large scale.

SS: Plus some new technology.

September 11, 2001

DM: I want to talk to you about the future of this Information Technology revolution. If we conducted this interview a month ago, we would come into this worried about the economy, but not as much perhaps as we are now. Have things changed for you personally and for the firm since the 11th of September? Did you lose people on the 11th?

SS: We lost one. One consultant was killed in the World Trade Center. What's different for the firm? Well several things. There is now an overhead both in terms of attention and in terms of cost of being in business, and that is that you have to constantly monitor what's going on in the outside world and have resources available to convene in the event of some unfortunate event or threat. It might be something directed toward us, or it could just be something directed towards a part of the population and we have to be there.

It could even be at a client site. So we had to put in place resources, processes, leadership to be prepared for what previously would have been unthinkable events. Another issue is we have to be careful about people's perceptions of businesses and brands. There may be places in the world where a modern, western business enterprise is somewhat less welcome than it was before. Our hope is it's a very limited number of places, but that is something we have to think about.

In terms of the use of technology, I actually don't see things being terribly different as a result. The uses of technology will march on unless there is something terribly unusual in terms of an outcome. I guess there is a small percentage chance that somehow the intolerant viewpoint, which basically intends through physical control to keep people from hearing or thinking about things other than what they are commanded to hear or think about, gains strength. If that ever became the dominant mode of thinking I guess you could reverse the progress of civilization for a century, but I don't think that's a likely outcome.

Collaborative Commerce: the Future Wave

DM: Are there things that you're doing now that you see as harbingers of the future? Projects that you're working on now that you're really excited about?

SS: Well I think the developing area is going to be collaborative commerce, where instead of redesigning technology and business processes inside a single enterprise, you in effect redesign a business process that operates through a chain of enterprises that serve an ultimate customer. The process design and technology challenge is significant but they're not the most difficult. The most difficult challenges have to do with defining the boundary conditions between enterprises and the associated governance and economic incentives to make the whole thing work, and we're doing some leading edge research and practical applications with a small number of clients within this arena.

DM: What are the biggest obstacles there?

SS: As I said, if you think reengineering inside one enterprise is challenging, try doing it across multiple enterprises with their own histories, their own legacy systems, their own cultures.

Also try doing it in an environment where if certain actions are taken collaboratively, the ultimate customer benefits and market expands, but perhaps as originally structured in the industry the benefits fall disproportionately and the costs fall disproportionately. So to facilitate a given outcome it might be one enterprise that has a bigger investment, but another enterprise in the supply chain manages to get more of the benefit, at least defined by traditional practice. So you have to be very creative in coming up with boundary conditions, legal agreements and governance processes so there is sufficient motivation in sharing of the benefit across the entire supply chain.

Whence Cometh Innovation

DM: Another question I always ask is whence cometh innovation? You have worked in your career with some of the brightest most innovative people in the world and there must be a thousand theories of where that innovation comes from. Where do you think innovation comes from?

SS: My guess is that innovation is derived from two sources. The first I'll call the basic natural science source, which is driven by an individual who feels the need to understand how something in nature works, or how to bend it to his or her will. To my mind that's the kind of innovation that goes on in basic science. That's the kind of innovation where you discover how something works, or you discover how you can modify a force of nature, but it's not necessarily to the extent that it delivers a direct benefit to the population, to business as a whole.

The second kind of innovation is an individual who can see pieces, and can find the right pieces to bring them together for a practical application that generates social benefit, business benefit, economic benefit, etcetera. And they work distinct from each other. In fact somebody who is an integrator often times has to wait a substantial period of time because there's a certain piece, that until it becomes feasible, the rest of the picture doesn't work. So for example with laptop computers, battery technology was one of the most difficult problems to solve, but it's an entirely different discipline than the microchip technology, which it had to have.

So there's really to my mind two kinds of innovation, the focused, gets the benefit personally from discovering how something is done and publishing about it but it doesn't yet move the world, and then someone else who can take pieces and then figure out how the pieces integrate what the economic model will be and actually brings it to a production.

DM: Do you have heroes on both sides of that equation?

SS: There are probably two that come to mind and they are very different. The first is a physicist, recently deceased. His name is Richard Fineman. He was a quantum mechanics physicist, which is a very valuable but very arcane topic in terms of accessibility by the general public population. He did extraordinary research work but he also made physics accessible to a broader population by writing about it in popular terms.

He in fact was one of the physicists that explored why the Challenger had the O-ring failures. He is most famous for dropping the frozen ring and showing how it cracked. So that willingness to be extraordinarily good and yet put in all the extra effort to have another audience understand is to me, very, very admirable.

The other hero, and it's going to sound trite because of recent events, but I would have named him a hero before recent events. He is Mayor Guiliani, and the reason is he seems to have engineered one of the greatest social transformations that a city, a major metropolitan city has ever experienced. The entire social tone of the city of New York is entirely different from when he took office. It is a very desirable tourist destination as a result of what he did. The pride that people have in their own city is immense, and the impact on crime, livability, cleanliness, etcetera.

Heroes aren't just about technology and they aren't just about military, there are from time to time social heroes that actually get a group of people, in this case it's the city of New York, a tremendous number of people, to day-to-day behave differently than previously. To me that's a pretty amazing accomplishment.

A Practical Legacy

DM: Last question I usually ask can be the most difficult and that is about your role in the Information Technology revolution. Graduate students are going to be looking back on these interviews and will see an extraordinarily interesting group of people. How would you like to be remembered as far as your role in this revolution?

SS: I'm probably a helper who did a good job of discerning practical versus impractical applications of technology, and quickly and successfully implemented the practical.

DM: Is there a solution to a problem that you helped solve, or a client relationship or project that you are especially proud of?

SS: There's one thing we did for a smaller apparel company, and it solved a critical problem that as far as we know, has never been solved that way before. It's an apparel and textile company so they make garments but they also make the fabric, and the problem is called, "an available to promise." What that means is that if a customer, or in their case, a retailer typically calls and wants to buy a certain product in a certain timeframe, how do they know what they can promise that they can deliver?

It's a very complex problem because you start by making yarn. Then you dye the yarn, weave it into fabric, and then you cut and sew the fabric into garments. So it's a relatively long cycle, but there is some flexibility in your production capacity and cycle. You can choose what color to dye the yarn in, and you can choose what garment to cut the fabric into, but even then there's a greater level of detail, because remember garments come in sizes. So you can't say, "I want so many t-shirts." You have to say, "I want so many t-shirts by so many sizes." So it's a very complex problem of having something that's in production for a while, and as it gets to later stages of production it's more specific in what's being committed to, but it's a bit more plastic early in its cycle.

So we created custom software that did the logic that said, "You call me, tell me what you want, size, color, style, everything. I will then work an algorithm against everything in production, and everything planned for production, knowing what has been fixed because it has already been dyed a color or whatever, and I will find the optimal way to deliver your order to you making use of our production capacity." It's actually a very complex but very amazing algorithm in terms of how much benefit it delivers, because the opposite is you produce anticipating customer orders. You put the stuff into inventory and then at various seasons you end up selling the excess at dramatically reduced prices. So this ability to constantly modify your production schedule to every customer order saves a lot of inventory costs. It saves a lot of wasted material. It makes a business far more profitable and far more responsive to their customers, because the fact of the matter is you generally have a 95% chance of delivering on the date you say based on what you have. The predecessor methods involved a lot of heuristics and approximations, and the opportunity to not deliver, was high.

DM: Well thank you so much for your time and sharing a fascinating Oral History.

SS: Thank you.