SWE GRASSROOTS ORAL HISTORY PROJECT

Betty Shanahan Interview

February 20, 2014, continued on October 24, 2014

Detroit, Michigan and Los Angeles, California

Reuther Library Oral History ID: LOH002111.27

The first part of this oral history interview was recorded as part of the SWE Grassroots Oral History Project on February 20, 2014 at the Walter P. Reuther Library and Archives of Labor and Urban Affairs at Wayne State University in Detroit, Michigan. The interview continued on October 24, 2014 at the Society of Women Engineers Annual Conference in Los Angeles, California. A copy of the audio recording of the interview has been deposited at the Walter P. Reuther Library and Archives of Labor and Urban Affairs, Wayne State University. The interview may be used for research and educational purposes only.

Betty Shanahan is an electrical engineer and former executive director of the Society of Women Engineers. She and her husband were both hired at Data Genera after graduating in 1978 from Michigan State University, where Shanahan was the only woman engineer working on the company's Eagle minicomputer project. After twenty-four years in development, engineering management, and marketing for the electronics and software industries, she was hired in 2002 as the executive director and CEO for the Society of Women Engineers, of which she has been a member since her freshman year. Shanahan retired from SWE at the end of 2013, but returned to alma mater as a consultant for the vice president of administrative services at Michigan State University.

Shanahan holds a bachelor of science in electrical engineering from Michigan State University, a master of software engineering from the Wang Institute of Graduate Studies and an MBA in strategic management from the University of Chicago Booth School of Business. She received an honorary Ph.D. from the University of Connecticut, was the first woman to receive the Claud R. Erickson Distinguished Alumni Award from the College of Engineering at Michigan State University, and was named one of STEMConnector's "100 Women Leaders in STEM." She is a Fellow life member of the Society of the Society of Women Engineers, and a member of IEEE, the Association Forum, and the American Society of Association Executives. She is a member of the Michigan State University College of Engineering Alumni Board, serving as Vice Chair through 2017.

In her 2014 SWE Grassroots Oral History Project interview, Shanahan describes how she became interested in engineering and her experiences at Michigan State University; and her career in the nascent electronics and software industry. She also speaks at length about her introduction to SWE; her experience planning the 1995 SWE National Convention; the circumstances that led her to become the executive director of SWE; how she implemented her vision for SWE; the impact of SWE's mission; and what she would like to see SWE pursue in the future.

- July 2016

INTERVIEW PART 1: LOH002111.27.1

TROY ELLER ENGLISH: Okay, today is February 20, 2014. This is a SWE Grassroots Oral History Project interview with Betty Shanahan. The interviewer is Troy Eller English. We are at the Walter P. Reuther Library at Wayne State University in Detroit, Michigan. Betty is a Fellow life member of the Society of Women Engineers, and served as the executive director and CEO of the Society for eleven years before stepping down at the end of 2013. Prior to that, she had a twenty-four year career in development, engineering management, and marketing for the electronics and software industries. Thank you for joining me.

BETTY SHANAHAN: You're welcome.

TEE: So, to begin with, can you tell me where and when you were born?

BS: So I was born on the South Side of Chicago. Actually, I was born very close to where Michelle Obama was born, on the South Side of Chicago, July 20, 1956.

TEE: Okay. And you grew up in Chicago.

BS: Yeah, I grew up in different parts of the South Side until—and my family lived there until my dad passed away, and until my mom went into assisted living. [00:01:00]

TEE: Okay. Can you tell me a bit about your family?

BS: Okay, so my parents came from Ireland as adults. My mom is the second-youngest in a family of six in a farm in Ireland. My dad is the second oldest of a family of twelve in a small town. And my mom was County Galway and my dad's County Limerick. They met in—just part of the Irish community in the New York/New Jersey area. My parents—before I was born, my parents moved to Chicago, mostly because of jobs. So at that time the railroads were hiring, so my dad worked for the Elgin, Joliet and Eastern Railroad. That's what he did when I was born. So that's why we were out in Chicago. Most of my relatives are either still in Ireland, or in the New York/New Jersey area. [00:02:00]

He worked for the railroads. My mother was a housewife. And he worked for the railroads for a few years, and then they had a big downturn. And then he worked in construction, mostly working in foundations, digging and that. And worked on O'Hare Airport and Marina City, some of the big stuff in Chicago, until he actually had back problems. And he had to stop the construction and became an operating engineer. So worked with the physical plant of a building. Union. Union job. All of those jobs were union jobs, pretty much. You know, blue collar union background. And he did that until he retired. So worked for a big bank on the South Side, Chicago City Bank, biggest bank in Chicago outside of the loop. When I was a little kid I thought he shoveled money. (laughs) [00:03:00] And then worked for some of the buildings downtown later, before he retired.

I'm the oldest. My sister's two years after me, my sister, Kathleen. And my brother, John, is three years after her. We were living in the far side—most of

what I remember, actually, is living on the far South Side of Chicago. Went to Catholic school from K through 12, St. Margaret of Scotland Elementary School, and then the Academy of Our Lady. It was also known as Longwood High School. Single sex high school, and that probably was a big part of my influence in engineering. First of all, the fact, I think, in the single sex school girls did everything. If you wanted a class president, that was a girl. Math classes were full of girls. Science classes were full of girls. And also, it was a teacher that really inspired me to go into engineering. So that's kind of the abbreviated part. [00:04:00] Just before I started high school—actually, we lived down the street from my high school. Just before I started high school my parents bought their first house. We were living in an apartment until then. They bought their first house just east of Midway Airport. And so I took the public transportation back to high school. So I guess I see my roots as that far South Side, because I was still going back there for high school.

Growing up, I worked as a day camp counselor for the park district. You know, a few bucks a day. And worked as a—you know, babysat and that. And then my first kind of real job was working in a grocery store—cashiering, courtesy booth, stocking, whatever—a family-owned grocery store on the South Side until I went, and through college.

TEE: Okay. And did your mom work outside the home?

BS: No, not once I was born.

TEE: Okay. [00:05:00]

BS: I know she worked in manufacturing, light manufacturing jobs. I know she worked for A&P packaging bacon, and somebody making light bulbs. But all of that was before I was born. Once I was born, that was it. But although—my mother made all of our clothes. It was a big deal to get a store-made something because, I mean, she made—about the only things she didn't make was underwear, and coats, and shoes. But all your jackets, blouses, pants, skirts, dresses—she did all that. And pretty much, I'd say, was a very traditional housewife from the sixties.

TEE: Mm-hmm. Okay. You mentioned that a specific teacher really propelled you into engineering. Can you tell me more about that person?

BS: Yeah. [00:06:00] So when I was in high school I took up forensics, competitive speaking. And she was actually the forensics coach. So she was a nun, Sister Terrence O'Reilly, JoAnn O'Reilly now. And she was coaching the forensics team, and was really pretty supportive of all the girls. And one day said to me, "You know, you're—." I went into high school thinking I wanted to be an English teacher. Then, about my sophomore year I thought I wanted to be a math teacher. Then I started thinking, Well, maybe I want to be a mathematician. And I really didn't know a whole lot about these different jobs. And she said to me, "Well, my sister is coming into town to go to this event down in the University of Illinois. Have your mom call in sick for you and go down with her." [00:07:00]

So it turns out her sister was an aeronautical engineer at Martin Marietta. She took me to a Society of Women Engineers event down at University of Illinois, and it was—some of the things I really remember from that event was, it's like the first time an adult treated me like an adult. You know, I was a part of this community. I wasn't the kid on the side. And it was just a fun trip. First of all, knowing a teacher's sister and hearing kind of the funny stories, and that. Especially a teacher that's a nun.

TEE: Right.

BS: And so hearing some of the funny stories. But also, just really being inclusive. I know in the SWE time capsule, there's some things from the Henniker Conference, and that, that I put into the SWE time capsule. That's things I got from that trip to U of I. I kept those all that time. [00:08:00] And actually, her sister is now the vice president at Ball Aerospace. So her sister's had quite a remarkable career.

So after that, that got me kind of thinking engineering. And I had a physics teacher, who also was the faculty person for the yearbook, and I was on the yearbook. So he was great. He was very supportive. And he said, "If you can get your parents to do this, go down to Purdue." There was a one-week summer program. So I did that. My parents took off. And realize my parents hadn't been to college. So this was a big thing, because I was the first going to college and seeing a college campus. And I think my folks, especially my mom, was a little nervous, because this was the early seventies and what you see on colleges in

those days is Kent State and riots. [00:09:00] So, you know, all the images of the protests of Vietnam is their image of what a college is. And we show up at Purdue and you could not find a more peaceful place in the world than Lafayette, Indiana. (laughs) So I think first of all, for my parents, it was this real relief that when their oldest goes away to college, or does college, it's not walking in the middle of a riot. And also, during that time, I'm growing up on the South Side of Chicago during the race riots. So it wasn't like—there was a lot of times where we couldn't go outside because rioting, the late-sixties rioting was going on. And I was living in the mixed-race neighborhood. A lot of racial tensions, just a lot of challenges. So I think we already had experience with a tense environment, and I think they were just thrilled that college could be this peaceful place, not a riot. [00:10:00]

And so that week was very special. It was the first time I saw—. Well, maybe to set the context, one of my friends, Peggy Burke, brought in a four-function calculator. It had two places after the decimal point. Add, subtract, multiply, divide: that's all it did. It cost a small fortune. It was the very first calculator, and I thought that was amazing. When I was down at Purdue, I started to see the first computers. And so I got all excited about doing that, and I decided I wanted to do computer engineering. They did some nice things to support the girls in the program, kind of talked to us on the side and really supported us. So I kind of walked out of there saying electrical engineering.

So I think if it wasn't for Sister Terence, I wouldn't have even thought of that, of engineering. It wouldn't even have been a possibility. [00:11:00] And then Mr. Arruda, the physics teacher, I think really kind of had that—kind of crystalized for me. You know, our guidance counselors were old retired nuns that were pretty cool about it. I remember one said, "Well, I really don't know what engineering is, but it's supposed to be a very good career, so you do that." So when you think about what girls hear now—the fact that they didn't know about it but they knew enough to say, Do it. And as I understand, out of my graduating class of a hundred and twenty-five, I know of three of us that went into engineering. So that was pretty cool in 1974.

TEE: Mm-hmm. What did your parents think about your career, this specific career choice?

BS: I think my dad was very supportive, because he was doing engineering-type work. And it was interesting, when I was in college, listening to my dad actually talk to my uncle, who was trying to take the test to be a stationary engineer, and to realize my dad had never gone to college and that, but here he is talking about thermodynamics in a way that I'm trying to understand. [00:12:00] So I think he saw that—I think my dad was sort of very conservative, except for his two daughters, where I could be an engineer and my sister could be an NBA player. (laughs) So they were supportive. And I think my mom was, "Whatever, just go to college." (laughs) I think as long as we were going to college, she was happy. They put a very high value on education, because I think my parents were and

are two very intelligent people who did not have the opportunity of getting an education. And so their opportunities were very limited, not because they didn't have the capability, but they didn't have the educational background to do more. [00:13:00] So I think they really valued education.

TEE: Okay. So you went to this week at Purdue.

BS: Mm-hmm.

TEE: How did you ultimately choose to go to Michigan State?

BS: So, you know, you have to put it in context of the seventies, where you didn't run around and visit all the colleges and that. And so I had seen the University of Illinois, down in Champaign-Urbana, with going to the SWE event there. There was something magic in my head about going away to college. Then, I'd seen Purdue. And then Michigan State sent—a lot of colleges would mail you things, and that. I remember I got something from the Catholic University of America, and my physics teacher had gone there. And I said, "Well, what do you think about that?" And he said, "If I saw a sign that said, 'This bridge was built by an engineer from the Catholic University of America,' I'd find another way to cross the river." (laughs) [00:14:00] So I took a different—. So I mean this is literally how you're making decisions. So you're getting all this stuff in the mail.

And Michigan State has a thing they call—I don't know if you know the ADS, Alumni Distinguished Scholarship. So I guess for the sake of the recording, Michigan State gives out, I believe, ten full, complete four-year scholarships to

these ADS Scholars, based on a test. And hundreds, thousands come in to take that test. And in the course of doing that you come on campus. You get to spend a night in the dorm and get to see the school. So I was an ADS-er. It was huge, because I went—my senior year, I went by myself. Or actually, went with another girl that Michigan State paired me up with that I didn't know, but the two of us kind of went by ourselves to Michigan State. And I didn't even have a driver's license. [00:15:00] So I'm going off on my own, and took the test.

Of course I didn't get the ADS, but I had such a great time in both—the engineering college really made you feel welcomed and, We want you here and we really care about you. I had a blast in the dorm. You know, whoever hosted me was just really wonderful. And my entire time at Michigan State I always hosted ADS-ers. I remember a bunch of drunk guys standing outside the door singing the school fight song for me. And so it was just this really great experience. And as Troy knows, Michigan State's about the most beautiful campus you can find, so I really fell in love with Michigan State. The issue became finances because, you know. I needed to kind of come up with the money myself. And I got a National Merit Scholarship from Michigan State. [00:16:00] So the National Merit Scholarship really paid the difference between in-state and out-of-state tuition. And so, with my job at the grocery store and working part-time at MSU, I could afford to go to MSU. And it really was just having that really wonderful experience.

I think the icing on the cake was, I always wanted to debate in high school. I could never talk anyone else into debating and you need two people to make a debate team, so I never debated. And Michigan State's debate coach at the time would bring people who did not have high school debate experience in. So it also gave me the chance—by going to Michigan State I could debate. Which I guess in the big scheme of things of engineering, probably shouldn't be a major deciding factor, but it just added to the appeal to me, that I was on the debate team for Michigan State for two years.

You know, I love Michigan State. [00:17:00] I bleed green. It was a wonderful experience. But one of the top electrical engineering programs in the country is at the University of Illinois. It would have been financially a lot of easier to do University of Illinois, but I didn't have that kind of realization. So I really didn't make my decision based on things like rankings or programs or anything. I really made my decision—Michigan State made me feel at home.

TEE: Mm-hmm. When did you enter Michigan State?

BS: September 1974.

TEE: Okay. At that time, there was a huge wave of women, relatively speaking, entering into engineering. Did you feel at all like you were part of that wave? Or were you not aware of that at all?

BS: I think I wasn't that aware of it. So you've got to realize I go from a single-sex school, from an all-girls' school to an engineering program. [00:18:00] And when

you first start engineering, you're just taking—especially in those days, you took physics, and chemistry, and calculus, and social studies, and ATL [American Thought and Language]. You don't take, really, any—. Your first engineering class, in those days, is sophomore year. So I don't think I even had that much visibility to it freshman year.

I was put in honors calc, which was a real mistake, because I didn't have any calculus in high school. My school didn't have calculus. My school didn't have any AP [advanced placement classes]. So I was put in honors calculus and I was put in honors chemistry. I had enough sense to get out of honors chemistry. I did not have enough sense, right away—I did not have enough sense to get out of honors calc. So I really struggled through that. But, there were two women in the class of, I don't know, maybe about twenty of us—Laura Tavermina and me. And I remember one of the guys in the class said to me how shocked he was that there were women in an honors calculus class. [00:19:00] And I said, "Well, that's funny. All my honors math classes in high school were all women." And I never told him I went to an all-girls' school. (laughs) But so there were things like that, but I don't think I had that sort of big-picture sense at all.

TEE: Mm-hmm. When you started taking engineering classes, were there many other women at that time?

BS: No.

TEE: No.

BS: So graduating with me was Terry Sipe. So there was about a hundred and twenty-five—. My college graduating class and high school were almost the same size. It was about a hundred and twenty-five EEs [electrical engineers] graduated at the same time, and there was Terry Sype and me. We were the only two women in the class. So once I started taking the engineering classes, then it was, I think, a lot more apparent. And early on, Terry and I were together, but she went into more power. So once we got into the advanced classes we weren't even in class together. [00:20:00] So I was typically the only woman in the class.

I had one professor—actually, she was an instructor in computer science—that was a woman. She was, I think, a mathematician by background. So in a computer science class. I think that was the only technical class where I had a woman. It was all men professors. I had one—I remember one professor was handing out the first assignment, and he was calling names. And he calls Ben Shanahan, and I go up to get my paper. And he looks at the paper and he looks at me, and he goes, "You're not Ben!" And my nickname with him became Ben. But it was just sort of—he saw B-E, and that's the only name that could be there. And so it was pretty much just all guys.

TEE: What was that like, especially having come from a women's high school?

BS: You know, it—especially when I look at what it was like working—I would say, I mean, it was different. [00:21:00] And it was—I mean, it wasn't to say there weren't awkward moments, but I would say that the guys overall were pretty

good and pretty welcoming. I mean, more than once you have some guy hitting on you in class, and you're just like, "Can you find someplace else to sit?," or that. But so, individual guys would be a pain. But I would say in general I was with a community of guys that were pretty friendly. I mean, there were to be things like, "We're all going to—a bunch of us are going to go to Dooley's on Friday night. Will you let people on your floor in the dorm know we're going to be there?" So I was almost like matchmaker. And literally, the woman that caught the bouquet at my wedding lived on my floor of the dorm, and she married one of my classmates from meeting in this casual, "Hey, let all the girls in the dorm know—." [00:22:00] Now they say "girls." In those days, we'd say, "women." "Let all the women in the dorms know that we're all going out." And so I had—I would say the profs that were kind of a pain about it were kind of a pain in general. So there were profs that I didn't feel comfortable around, but I don't think too many of the—you know, the guys didn't have it that much easier with those profs. You get the couple that teach to the geniuses and the rest of us don't matter. But I really felt like I had very supportive professors, for the most part, classmates.

I joined SWE right away. Wendy Baker was our advisor. I was just mentioning her yesterday. When I struggled—because I shouldn't have been in honors calculus, I was struggling with my grades. [00:23:00] I started in the honors college, because I do very well on standardized tests and I had good high school grades. But I didn't have advanced classes, and so I got thrown out of the honors college pretty fast. And that left me extremely discouraged. You know, when you

all of a sudden, you're told, "We don't want you." And I remember Wendy Baker was just like, "There's people in that honors college that are taking algebra, and the engineering majors can't even count that towards graduation. Don't you worry about what they're saying. Stick to it. Your grades are fine, you know. Keep in. You'll do better."

And even with my calculus prof, where I was struggling, he was like, "You're still getting C's, but they're better C's, you know." (laughs) Which made me realize he probably should have given me D's. So he goes, "No, you're doing better. Don't give up." So I would say at MSU there was never anyone that said, "You shouldn't do this," or, "You can't do this." [00:24:00] And then, quite the contrary, when I struggled they were saying more, "You're doing better. Don't give up."

TEE: Mm-hmm. What propelled you to join SWE specifically? Was it just because you had already had that one connection with them, or—?

BS: No, because it was actually—I didn't make that connection until afterwards. I didn't make the connection until I pulled out all the stuff I had from high school and saw all the Henniker materials and saw the Society. I'm like, Oh my gosh, this is SWE. So I had had these experiences, and in a high schooler's mind they didn't fit anything, until—. So I was working before I even dug back to that old stuff.

No, I think some of it is I'm kind of a joiner. And so they're like, "Oh, the women, you can do this, and you can join the IEEE student group." [00:25:00] And SWE

at Michigan State was a lot of fun. We had SWEATS, Society of Women Engineers athletic teams. And so I played water polo and softball. And so it was probably as much of a—this was what the freshmen women got invited to do, and I just did it. I did some leadership, but not a lot. I was a committee—I think the highest thing I ever did in SWE was, I was a committee chair. I wasn't high up enough that I never went to the national convention or—we didn't have regions in those days, or at least not apparent to me. So I didn't go to the national convention. We went to visit Purdue once.

So I did activities. I did—actually, I should give you a copy—SWE did a whole thing on women and engineering. [00:26:00] And it was my senior year. So I worked with another SWE member and we did this book about women and engineering at Michigan State, and we used this plotter to plot out a little girl we called Sally Comp. She carried a bit T-square. And the crudeness of this image that took us hours and hours and hours to do. You know, a third grader can do better now on a computer. (laughs) But it was just this massive task in those days. So I would do things like that, those kind of outreach-type things and work on that.

I got more involved with—well, I was on the debate team for two years, too. So my first two years—you get very absorbed with the debate team. You're on the road and during debate season, which goes through the middle of the winter, you're just busy doing debate and trying to keep up with your classes. Then I got a little involved with dorm government, mostly because I was, I think, on the

debate team and better able to argue things. [00:27:00] And then, involved with things like student rep to the Engineering College curriculum committee. I was the first woman to be the president of the Student—or, I think we called it the "chair"—the chair of the Student Engineering Council, Eta Kappa Nu, the EE honorary. So I'd say the only thing I did in a major leadership way was probably Student Engineering Council, and the curriculum committee. But I was secretary of Eta Kappa Nu. I did some of the smaller jobs, including SWE. I'd say SWE was probably half social for me.

TEE: Right.

BS: And maybe a lot of what SWE was just that peer network that said, Hey, we're all experiencing it and we all have profs that are pains in the neck.

TEE: Right. Can you tell me more about the engineering joint council? [00:28:00]

BS: The Student Engineering Council?

TEE: That one. (laughs)

BS: Yeah. It was kind of our engineering student government, and I was on it for two years. I was the chair the second year. So it consisted of representatives from all different aspects of engineering. So all the discipline societies have a rep there. I think I was—I think my first year I was there as SWE rep. And then my second year, I was there because I was on the curriculum. It was an elected job to be the student rep to the engineering curriculum committee. I was so in over my head. I

didn't know what I was doing there. (laughs) So, I look back and I was like, Wow. You know, they're talking about curriculum and it was pretty—you're sitting with all the faculty and trying to bring a student perspective. But that gave me a position on the Student Engineering Council. [00:29:00] So we really did, I think, a lot of—pulled together activities for the college.

And last night I was at Michigan State at the Evening With Industry, which is part of Engineers Week. And actually, one of our big accomplishments that year, when I was the Student Engineering Council chair, was we did our first Engineers Week activities. So I had never heard of Engineers Week before. The summer between my junior and senior year I was an intern for John Deere in Waterloo, Iowa. And I met a couple of guys from the University of Missouri–Rolla and they started talking about all this stuff. So I came back like, "We've got to do this Engineers Week thing." I had no idea how big Engineers Week, or what it was. And they also talked about all the St. Patrick's Day celebrations, which we couldn't do because we were on quarters and finals would hit on St. Patrick's Day.

But we did an open house. [00:30:00] I still have some buttons, Engineering Open House. So I think it fit well with some of the recruiting the administration wanted to do, that we kind of did a joint—have some social fun, and at the same time do things with high school kids. You know, bridge building competitions, where you put weights on. The other thing that we did as a special project was—which we were not able to do that year, but started the next year—was doing a

special graduation for engineers. In those days at Michigan State, you graduated in Spartan Stadium. And they didn't announce your name. They didn't announce your department. They announced your college. (laughs) And so we wanted to do something special for the engineering majors. I think we way underestimated the challenge of securing space during graduation at the University, but we put the wheels in motion so the next year they did do that. [00:31:00] Now, the whole university graduates by college, so it's different.

The person what was the Assistant Dean at the time, George Van Dusen, was our faculty person, our staff person working with us. And he was really, really super. I give a lot of credit to him, because we had these ideas and he would really kind of help us turn those ideas into actual programs. And it's so far back then—I remember working on those two big projects. I know we had the everyday business that went on, but don't remember too much of it.

TEE: Right. Okay. Did you have any mentors, or anyone who helped to guide your future career while you were at Michigan State?

BS: I think there were a few professors that certainly did that. [00:32:00] We graduated—so, I met my husband [Bob Nuber], I met my husband in calculus class. And we were in all four terms of calculus together, we were physics learning partners, we were EE lab partners, and then we started dating. So I knew him fairly well as just a fellow student before we started dating. And his father is a chemical engineer. So I think indirectly there was some sense of what to do. I would say professors—there were several really good professors, and

some of their biases would rub off. Actually, my first choice of where to work after college was Hewlett-Packard, largely because Professor Fisher could not say enough wonderful things about Hewlett-Packard. [00:33:00] And the only reason I didn't go there was, Bob didn't have an opportunity that was nearby. His opportunity was fairly far away. And with hindsight it would not have been that difficult to make it work, but at that time it sounded like we couldn't make it work.

So I'd say the other thing we had at MSU, is we had a really, really good career center. And companies would come in. SWE would do the resume writing workshops. SWE did a resume book. We did all those kinds of things. So I was getting a lot of coaching between, I think, career services and SWE about how to be ready for a job—not necessarily saying which job to take or which way to go. I think with my degree, I was very narrowly focused on what to do. [00:34:00] So I talked to companies like HP, IBM. I ended up working for Data General, CDC—Control Data, which doesn't exist anymore. But I basically—you know, were companies that were computers, or peripherals to computers, is what I ended up interviewing for. I wouldn't say I had—well, I should say I may well have had mentoring that didn't sink in and I don't remember, but what sank in kept me, I think, pretty narrowly focused.

TEE: Okay. Okay. Did you have any sense when you went into college where you wanted your career to go? Did you have any sense of, specifically, what you wanted to do, or were you more open to—?

BS: Yeah, I think when I went into college I probably didn't. [00:35:00] First of all, I don't think I really thought about it that way. It was more, Okay, get to college. Get enough money. Keep working to pay tuition next term. I don't think I thought in terms of careers. I think I thought in terms of jobs. So you come out, you get a job. And I think it was really only when I started working that I saw careers, rather than a specific job. And to me it was, Get a job as an engineer and who knows what they do after that? And I'm sure with SWE meetings that we had people come in and talk about what they do, but again, it didn't really sink in. It was much more about what to do first out of college.

TEE: Okay. Can you tell me about your job search, especially when you're trying to find two jobs—

BS: Yeah.

TEE: —for two people? [00:36:00]

BS: Yeah. So, like I said, we graduated at a good time. So pretty much anybody had a few offers. And so senior year, end of the fall term and pretty much into the winter term, was spent going over to the career center, seeing who was coming in, seeing if what they did matched what you do, and go interview. And then, if you got a plant visit, go off and do the plant visit. I remember Hewlett-Packard said—it was out in Colorado Springs, I think—they're like, "You know, come on out early. We'll put you up. You can go skiing." And I'm like, this was so exciting. I mean, literally, the first time I had been on a plane was the summer before.

When I worked for John Deere, I flew from Waterloo, Iowa to East Lansing to see Bob once, and it was the first time I had ever been on an airplane. [00:37:00] So it's like, Oh, I can go out to Colorado Springs. It was great. And I got off the phone and then I thought about it. And I thought, I don't have a driver's license. How am I going to get around Colorado Springs? And so I called them back, and I'm like, "Do you need to drive out there? Or, are there buses?" And they're like, "Oh, you kind of need to drive." And I'm like, "Well, thank you but I can't do it. So I just have to come out for the interview, because I can't drive."

So it was several companies, that list. Probably one or two more. And Bob was doing the comparable ones. Bob actually got an offer with Bell Labs out in Colorado, so if we had—I think he was in Boulder, and I was Colorado Springs. So if we had really thought about it, we could have made it work, because that was his first choice, too. But we're talking to IBM. [00:38:00] IBM was the only company that initially knew we were a couple. So they did more, made more effort to say, "Okay, here's two opportunities in Rochester, Minnesota. Here's two opportunities in Poughkeepsie, New York." So that part was real nice.

My areas in electrical engineering were computers and communications, and when I interviewed with Data General they were doing a lot of array processors. So at that time every General Electric CAT scanner went out with a Data General processor in it. So Data General was very interested in me, because I fit a very specific need. I had a perfect background. So Bob interviewed for Data General and got turned down. So I interview for Data General at two facilities, and in the

course of them recruiting me they said, “Well, what are your deciding factors?” [00:39:00] And I mentioned Bob. And so they’re like, “Oh, what does he do?” And kind of got the story that he didn’t get an interview. So they called up Bob and got him into the interview process, so that we both got offers from Data General—Bob on the operating systems side, and me on the computer design side, the engineering side—which made it much easier for us.

Now, I think the interesting part of that story is, Bob and I both got offers from the same company multiple places. And every place that we got offers, I was usually a couple thousand more than he was, because I was electrical engineering/computer science, so it was just how the salaries went. Except at Data General, where his offer was a couple thousand more than mine. And I don’t think—I was so naïve, I didn’t think anything of it. [00:40:00] And I’m like, Oh, they’re just different. And it was literally—so, at Data General, they hired a whole bunch of graduates that year. They were starting up a big project, the project that was [described in the book] *Soul of a New Machine*. So they're starting up that big project, they’re getting everything going. So we all start together. And then the next year, when the first reviews are coming around, I'm seeing—I was one of the first people to start. We didn’t have any money, so we didn’t do the two months off. We just graduated and got going. And I’m not getting my review. And this guy is getting his, and this guy is—and it’s like, “Where’s my review?” And my boss is like, “Don’t worry. Don’t worry.” Well, it turns out my first review had a 25 percent inequity increase in it, as well as a

promotion, as well as a merit increase. And I had been started at a lower rank and salary than all my peers. [00:41:00] And I had heard through the grapevine afterwards it was the compromise that was made with the director to hire a woman, was to lowball me. And if I took it, they could get it. And I was naïve enough to take it. And by the time I realized what had happened, they had fixed it. And my first review was signed by the CEO of Data General, because it was such a huge increase. So it's kind of funny because in the end Bob got a second look because of me, but he still got the higher salary.

TEE: Right. Right. What did you think at that time? Did you understand at that time what—?

BS: Yeah. I would say—it was at Data General, I felt more of the being a woman engineer, being out of place. So this is 1978. [00:42:00] You know, there's still secretaries and departments. No laptops or—it's long before any of that. So pretty much letters are typed up on typewriters for the most part, and there are secretaries and carbon paper and all of that stuff. And so there's definitely a small number, a very small number of women in engineering, but none of them are technical. And so it was a variety of reactions that came from me being there.

There was a technician who was put on a project with me. So we were all—I was hired to work at array processing, but basically all of us got pulled into this Eagle Project, just because it was such a critical time to market. And so we're all working there. One of the existing products had a problem. [00:43:00] I was told—and this technician's name was Bob—we're told to go work on it. Bob

refused to work with me, and I remember him saying, “She’ll cut my vocabulary in half.” And they pretty much told him, “We don’t care. Go work with her.” And I remember my boss coming back to me several months later when another situation came up, and this guy Bob was put with one of the men engineers. And he said, “No, I don’t want him, I want Betty.” And so my boss comes back, and he goes, “Well, you’ve made a fan. Bob’s asking for you.”

You know, so it was really a mix of reactions. It was pin-up calendars around the labs and crude jokes. Just a lot of stuff that you just ignored to fit in. It’s funny, looking at it in the context of today, because they wouldn’t do that to me today. They’d be very sorry. [00:44:00] But behavior that’s just unimaginable today was just every day in those days. And you kind of—I think now when I know about things like isolation and that, that’s the kind of stuff that when I realized, Oh, I don’t belong here. I don’t decorate with pictures of naked women, you know. And I don’t talk that way. I don’t. And so you just put up with a lot. You ignore a lot to fit in.

But certainly, there were a bunch of—a bunch of the guys I worked with I’m still in touch with. We’re good friends. You know, be on the softball team, do that. Actually, one of the guys I was very good friends with at one point said to me I shouldn’t travel on business, because it might be tough on the marriages of the guys I’d be with. [00:45:00] And I’m like, “Well, if it’s tough on their marriages, they can stay home.” Yeah. (laughs) But, I mean, this was a friend telling me with all sincerity, you know.

So that's when I think—I stayed a member of SWE that whole time. But SWE was in Boston, and I'm out on [Interstate] 495, so I'm a good ways out from Boston. I'm on this project where we're just working constantly. So it was kind of a combination of, it wasn't convenient to do anything with SWE, I didn't know any SWE people, and I didn't really have that much free time. And the free time I did have, what was very nice about Data General was a whole big crowd of us were hired together. So there was a whole lot of people, a lot from the Big Ten, coming out. So there were two or three apartment complexes, so on a Saturday night we'd all go to Sarah and Dave's house and they'd make dinner. And there was sort of like the married couples and the single guys. [00:46:00] And everybody was new, nobody had families. So there that kind of community. So our free time was spent with the people we knew, and that I knew from engineering and Bob—the company, there was a lot of hiring on Bob's side—that we hung around with them.

So I didn't really do anything with SWE. And I was about two years working and Sarah Simon, who was president of the SWE Boston at the time, called me up and said, "We have this workshop. Why don't you come out?" And so I went to Boston for this Saturday workshop. SWE and AMITA, which is the MIT women's alumnae association, used to do a joint professional development day. And that was the day where it was sort of like, Oh my gosh, I'm with other women. You know, I kind of complained to Bob where I didn't feel like I belonged and that, and it didn't make sense to him. [00:47:00] And it was like, Oh, my gosh, the SWE

women get it. The speaker said, “You are a freak. You are different than everybody else that you work with, and it’s okay to feel out of place.” And that was this huge burden coming off my back, because now it’s not about something’s wrong with me. It’s something’s wrong with this environment. And now, I can deal with it a different way.

So that SWE/AMITA conference was just this amazing day. I signed up to work on the next year’s conference. MIT, at least then, owned a house up in Vermont or New Hampshire, someplace, like a big retreat farmhouse thing. And I went up there to be a part of the planning committee. I rode up with Pat Shaw, who was the incoming SWE Boston president. [00:48:00] And I thought that was the most amazing thing, that the SWE Boston president would ride with me. I was so impressed. Pat Shaw is one of my best friends to this day. (laughs) And that’s what got me involved with SWE Boston, and got to know all the SWE Boston people. And then, that just became my community after that.

And I think that’s what—I really feel that kept me in engineering. Because as much as I really did like a lot of it—you know, you’re an insider and outsider, both at the same time. And a lot of it got very weird, too, because we were a part of this community. If you went to a party, well, do you hang around with the wives? And especially as the year started to go by and they started having families. So now, all of a sudden, all the women you know in your Data General base community are staying home and raising children. [00:49:00] So they’re all spending their time together. And you’re sort of this—you don’t really belong to

them. But at a party, you hang with the guys and it just—it was weird. And with SWE it was different, because you were with women that were like you.

TEE: Mm-hmm. Mm-hmm. You said that after going to that SWE conference you saw how you might be able to change your feelings about where you were at, or change what you would do and how you would respond to it. How did you learn to find your place at Data General?

BS: Yeah. [00:50:00] I think finding my place—maybe was a little less that and more not personalizing it. So I didn't feel the same—if someone said something, it's not my fault. It's not my thing to worry about. That's their problem.

I also had a weird situation at Data General, in that I was in this array processing world, so big project. The Eagle Project finishes, everybody goes off and does different things. Data General had a challenge. They had a lot of people all waiting to move up to the next level, and a lot of people who had worked very, very, very hard. So they had the challenge of, how do you reward people when not everybody can move up the same way? [00:51:00]

I got pulled back into array processing. Array processing—so, I was very naïve. Data General's talking very much about going into business computing, and it's all about business computing. And I'm in very hard scientific computing and ignoring the whole thing. And actually there was this other tech who had been around. He's like one of these guys, just knew so much stuff, had been around for forever. His name was Larry. And Larry and I were about to start debugging

the first prototypes that we had been working on for such a long time. Well, basically, we were about to start working weekends to really get these things out, and I found out that Data General was just killing all array processing. [00:52:00] And they weren't going to tell Larry until next week. And I'm like, I'm not coming in on Saturday for something that's dead, and I'm not letting Larry think I'm not coming in.

So array processing gets dissolved. The person who was my manager leaves the company. And so I'm kind of floating, and our little department sort of doesn't really have a manager. We're put under different people, different ways. And through that, I actually got to know the person who for a while was the director of all of what was called eclipse engineering, because I was missing a level. And he had moved from our North Carolina offices up to Massachusetts to run this department. And he actually started the next company I went to work for. So I was sort of, I guess, maybe in a weird world of not just being the woman, but I was also part of this little department. [00:53:00] I think there was three or four of us that didn't fit in anywhere.

I started working on a project for developing a compilable hardware description language. And through some of the work there I got to know a real guru in compilers and he was very interested in this. And again, with 20/20 hindsight, the two of us should have gone and started a company with it. So the two of us were working on this, we really had something there. And as I got moved under another person, he had on his whiteboard the list of projects in priority order, and

ours was dead last. And it was—you know, it's not even like things are shaky. It's like he has no use for this project. And they cancelled that project. [00:54:00] And if the two of us had any sense we should have gone and started a company, because the guy who did do this a few years later was very successful in starting a company.

So I don't know if I ever—when I think back, I wouldn't say so much I ever challenged anything. I never stood up. I never said anything when someone made an inappropriate comment. I think probably my biggest strength is I stopped internalizing it and then kind of moved on.

TEE: Okay. How long were you at Data General?

BS: Five years.

TEE: Five years. Okay. What, ultimately, led you to leave? Was the—?

BS: Well, yeah, the startup. So this guy, Ron Gruner, went off and started Alliant Computer. [00:55:00] It was called Dataflow Systems at first. He had two cofounders with him. One was Craig Mundie, who was one of the top people at Microsoft, just retired, went on to be extremely high up in Microsoft. And the other was Rich McAndrew, who became my boss. So he'd been at Data General before I was there. So I didn't know Rich from Data General. And we did the first commercial parallel processor. And it was a very neat environment. And I wouldn't say we didn't have politics. I wouldn't say it was perfect, but it was, I'd

say, a level above where Data General was in terms of acceptance, behavior, attitudes.

We brought a lot of people—in those days, Massachusetts was nothing but minicomputer companies, so we had people from all around come in. [00:56:00] And we had a really magical few years where everybody was new to the company. Everybody brought the best ideas they had from before. People had a great sense of humor. You know, we had more funny stories of practical jokes and craziness and that. But at the same time, everybody worked really, really hard and really contributed. So it was a great place to work. And the only reason I got—I think it was a combination. A couple of the guys that I knew at Data General that had known Ron for many years—because Ron had been in Massachusetts before he went to North Carolina, got recruited there—and they spoke up for me. And I had gotten to know Ron a bit during that short period of time when he was my boss. You know, when I look back on my technical career I'd say my happiest time were those first few years at Alliant, where we were just all working together and so focused. [00:57:00]

TEE: Okay.

BS: And Rich was—in many ways Rich was a terrible boss, and in many ways he was a great boss. I remember I was working there about six months, and I went in and I said, "You know, I'm here about six months, and I've never gotten any feedback. Am I doing a good job? Or, am I going to be fired?" And he said to me, "I'll yell at you if you're not doing a good job. Don't worry about it. Get back to

work." And I mean I literally never got a review, never got a formal review. Very seldom got any kind of feedback. But I worked for Rich the whole time, and I had a great relationship with Rich. And on the one hand, he wasn't a formal manager. And on the other hand, he was very—. You know, you talk about mentoring or things like that. I mean, he gave me a lot of opportunities. He was very supportive. I've always had the attitude if something needs to get done, just go do it. [00:58:00] And he recognized that and was really appreciative of it. And I think of all my career, he's the one boss that kind of looked out for me, moved me ahead.

And so I think we had a—we developed a computer. I was speaking at the University of Illinois in Urbana-Champaign a few years ago, to their Women in Computing group. And one of our circuit boards was there. We were building a parallel processor. University of Illinois Center for Supercomputer Research was taking those parallel processors and making—and parallelizing them. And some of their technical gurus, some of the professors there were part of our technical advisory team, and some of their research that led to our work. So it's like I'm down there—I'm in a museum! That's our board! [00:59:00] So this was, I'd say, significant. If you look you will see us in textbooks as references, the first commercial parallel processors. The company did not stay valuable. The company went out of business within, you know, ten years or eleven years of being formed. But it did go public.

But, I think we had a wonderful time, while everyone was just so focused on getting this thing out and doing something magic. And I think they did a very nice job of just hiring people who were good to work with. We had a VP in manufacturing for a while. He was from North Carolina. He had this big, fat cigar in his mouth, and he's say—this was when I was an engineering manager. He'd say, "Betty, honey, you and me are going to go into that executive meeting and we're going to tell them how we're going to do this right." And, you know, it was great because here's this guy calling me "honey," but he's calling me "honey" because he is going to be totally backing me up in the executive committee meeting. [01:00:00] I'm like, That's pretty cool. So even his southern-ness was I was still "honey," but I was the engineering manager that he was supporting.

TEE: Mm-hmm. (laughs) So how long were you there?

BS: I was there from '83 to '89.

TEE: Okay. Okay.

BS: I left there—so, we went through a magical time. It was wonderful. Got the first machine out, doing sales, went public, had an incredible party when we went public. Started on the second set of computers. Got promoted. I was the first engineer to be promoted, which was pretty cool. Started working on next generations, and that. And then, multiple things started to happen. [01:01:00] Probably, I would say, the biggest thing that started to happen was, we were building what was being called a "mini super-computer." And so during this time,

all of a sudden, the PCs are being networked, workstations are coming up. So the types of problems we were solving were being solved on different kinds of computers. And so there were several companies that were in that kind of layer of computing, that scientific parallel computing. And we just got, that whole market got squeezed out. So that's happening at a macro level.

Within our company, now we started to have revenue problems. And really, what started to happen was, the founder started to have challenges. So we had a situation where after five years, you'd get a sabbatical. [01:02:00] My sabbatical had been put off and put off and put off, because I was crucial to the project. Bob basically says, at one point, "I've saved up a month's vacation to go on sabbatical with you." I was going to take one month with Bob and one month on my own. Bob says, "We've got to do it before the end of the year, or I lose it." So we basically were going from mid-November to mid-December on the sabbatical, and then Bob would go back to work and I'd have through mid-January off. Well, when it was time to go my boss says, "Well, we really can't afford to have you gone that long. Can you take—you know, you're not supposed to split your sabbatical, but can you please split your sabbatical so we can take advantage. You know, you'd be back and working on what we need to get done."

While I was gone—and kind of remember this is late eighties, so nobody's got cellphones. There's no email, right. So I don't know what's going on. While I was gone all hell broke loose. [01:03:00] And I came back to a total reorganization. So my boss had been pushed aside. I had something like, I don't know, a dozen

people working for me or something like that. I came back, I had nobody working for me. My relationship with Rich—I don't think I was directly the target. I think Rich was the target and I was seen as his right-hand manager. So there was big political mess. And I was back a full day before—as I was trying to catch up—before someone turned around and said to me, "I don't work for you anymore." People didn't even know what to say to me, because I'm coming in to my staff, trying to figure out what's going on. And they don't know how to tell me, "You don't have your job." You know? So I lasted there three more months.

And one of the marketing guys there that I got to know had an idea for starting a company. [01:04:00] So after three months, I just quit and tried to start a company. What we didn't know would fill a whole book, but we tried it anyway. And we spent probably about eighteen—he worked with me for about a year. I probably spent closer to two years trying to do something, and in the end we obviously weren't successful. I did a little bit of consulting work. But we never got to even, I think, a viable product design. I think at that time everything was having to—. Alliant—you got an idea, and someone else is two steps ahead of you that's a big company. So we never made it. But that opportunity, the thought of starting something new, I basically just said, "I'm out of here. I'm leaving."

TEE: Okay. I think we will end there for today.

BS: Okay. Okay.

TEE: And we will pick this interview up at another time. Thank you very much for sitting down for this. [01:05:00]

BS: Oh, my pleasure.

TEE: And this is the end of this part of the interview.

END OF INTERVEW PART 1: LOH002111.27.1

INTERVEW PART 2: LOH002111.27.2

TROY ELLER ENGLISH: Today is October 24, 2014. This is a SWE Grassroots Oral History Project interview with Betty Shanahan. The interviewer is Troy Eller English. We are in Los Angeles at the WE14 and ICWES16 joint conferences of the Society of Women Engineers and the International Conference of Women Engineers and Scientists. Betty is a Fellow senior life member of the Society of Women Engineers, and served as the executive director and CEO of the Society for eleven years before stepping down at the end of 2013. Prior to that, she had a twenty-four year career in development, engineer management and marketing for the electronics and software industries. This is the second of a series of interviews with Betty. The first interview occurred on February 20, 2014.

In our last interview, Betty, you spoke about your education and career through 1990, when you worked on a start-up venture. [00:01:00] I'd like to step back and discuss your involvement in SWE in the 1980s.

BETTY SHANAHAN: Okay.

TEE: So thank you for being here today, again.

BS: My pleasure.

TEE: So you had joined SWE at Michigan State University.

BS: Right.

TEE: But then you continued with SWE as a professional in the Boston section when you began your career. Can you tell me about SWE Boston and why you decided to stay in SWE?

BS: Well, actually, when I moved to Boston I just automatically renewed my membership as a professional. But I don't think I did anything at all with SWE Boston until 1980 or '81, in that time frame. And Sarah Simon, who was president of SWE Boston at the time, called me up and invited me to go to what was then the SWE/AMITA conference. [00:02:00] So AMITA was Association of MIT Alumnae, so it was the women's alumni association for MIT. And once a year, SWE Boston and AMITA—and there was a lot of joint members, like Sarah Simon was a member of AMITA—would hold this one-day professional development conference. So I was out in the [Interstate] 495 beltway of Boston. And SWE Boston activities were held largely inside the [Route] 128 beltway in Boston. And with the traffic in Boston area, it could be two hours to get to a meeting, depending upon how bad traffic was. So I think between being very busy at Data General—we were working crazy hours—and not knowing anybody and this distance, I never went.

So when Sarah personally called me and invited me, I went to the SWE/AMITA conference. [00:03:00] And I was just so blown away, because everything I was experiencing at work sort of had a name to it, and I was not alone. It's everything you hear from SWE. There are other women like me. I don't remember who the speaker was, but she stood up and she said, "You are a freak. And it's okay to

feel funny and out of sorts, because you're in this situation where you're the only one, or one of very few. And there's nothing wrong with you for feeling that way." So that was so relieving to me, because I think at that point I was starting to feel there was something wrong with me, because I didn't always feel like I fit in and I didn't always feel comfortable in a situation. So I got so excited at that I signed up to work on the next SWE/AMITA conference. [00:04:00]

So the team working on the conference was, several weeks later, going up to a place that MIT owned up in New Hampshire, I think—New Hampshire or Vermont, up that way. And I was going to go. And Pat Shaw, who was SWE Boston president at the time, or about to become SWE Boston president, called me up and asked if I wanted to ride with her because she lived near me. And I was so excited because the president was going to ride with me. To this day, Pat's one of my best friends. Pat and her husband are coming out next week to visit with us. So it's the first probably very long-term SWE friendship, was going up to work on that conference. [00:05:00] It was everything you hear good about SWE. A lot of networking. Worked on the conference, and that really started to get me involved in SWE Boston and regularly attending events.

In those days, there were several strong women: Sarah Simon, Pat, Judy Nitsch was becoming very active, and we had several [national] past presidents in the Boston section. Evelyn Murray was there. Why am I drawing—I can picture her—I had her as a professor when I was working on my masters. I'll have to come back with her name. She passed away, but she was a past president of SWE.

She was in this section. So we had some strong people in the section, too, because some of the early presidents came from SWE Boston. [00:06:00]

It was, and I think it's still to this day, a very geographically big section. It's a very geographically challenged section, because Boston's like a semicircle, because Boston's right on the water and then the expressways kind of spoke out from Boston. So it was really tough to hold meetings that were convenient to everybody, because traffic was bad. And I remember Judy Nitsch held a meeting out west, based on me nagging, and said, "Oh, we held this meeting way out west." And I'm like, "Judy, I drove 30 minutes east to get to this meeting that's way out west, so." But it was a really good section, and I just kept signing up for things. So I did some of the outreach activities. We were doing some activities with Girl Scouts. [00:07:00] We actually received an award from the Girl Scouts while I was president, based on some of the activities we had done, doing Certificates of Merit, and high school career days, and that. So the section was big, It was strong.

It was a very different kind of time. Headquarters was not accessible over the internet, or phone calls were very expensive, so pretty much all your communications were, when you were dealing with headquarters, was through the mail. We had no voicemail in those days. So my husband called himself Mr. SWE because he was always taking messages. (laughs) There was a running joke that Bob didn't exist, that he was imaginary, because no one had ever seen him. (laughs) And James Cochran, who lived out near me, who had frequently

seen Bob, would sort of tease me that there was no Bob. [00:08:00] You know, she's making this up. (laughs)

So nice group. Really nice group, so very stereotypically SWE. Really cared a lot about doing outreach, really cared. Pam Waterman was huge on Outreach, Linda Blakeley—there was a lot of really strong women who have moved away. Beth Silverman is still out there. The eighties was a little early, this was kind of before Beth was there. The early eighties, Pam Waterman and Linda Blakeley, there was just a lot of really great women there.

TEE: Okay. What led you to run for office in SWE Boston, or to take leadership roles within SWE Boston?

BS: So that was also very stereotypically SWE. You get somebody, you do a little more, and a little more, and a little more, and all of a sudden, you realize you're on this path to running. [00:09:00] So after the SWE/AMITA conference, got onto different committee positions. That gets you at the executive committee meetings. And so Judy Nitsch was Pat Shaw's vice president. So it was pretty much a normal progression. If you're a vice president, you're going to be president for a two-year term. And I became also very friendly with Judy. And so Judy asked me to be her vice president. And she's somebody—both Pat and Judy are people I learned a lot from. And so it was, Oh, I get to be Judy's vice president. And now, all of a sudden, you're president.

I probably was a little early in my career to be as impactful of a president as I could have been. [00:10:00] I think I was very concerned about keeping the ship moving straight ahead, and didn't really have in my vocabulary or in my mindset taking risks, doing something radically different. Some of the things that we did that were exciting, I probably was very much a deer in the headlights. It was during the Dukakis administration in Massachusetts, and we got invited to the state house for a big event. I think it was tied to an anniversary with Eleanor Roosevelt, something like that. And I think I was just so young and inexperienced in those kinds of things that I went, but was just totally nervous. [00:11:00] I remember going to an event at the Boston Museum of Science that was, again, one of these—you know, very exciting that SWE was invited, but I would not say I was a strong voice, because I was kind of beyond my experience level, beyond my pay grade at that point. (laughs) So some of it was not a conscious decision to do this for my career, or anything. It was more, these are the women I was socializing with. These are the women I was partnering with. And as I got asked to do things, I would do them and keep moving from there.

Actually, then, when I became president, Kim Roddis was my vice president. Kim is now a professor at Georgetown [The George Washington University]. I believe it's Georgetown. She's in D.C., I think it's Georgetown. And she was my vice president first, and then she moved away. [00:12:00] And Linda Blakeley or Pam Waterman became my vice president after that. Actually, I think some of the most innovative things that we did when I was president, a lot of that credit goes to

Pam Waterman. She pulled together some pretty cool outreach activities. She's extremely creative, and her career has been a lot of technical writing. She does technical magazines. But she also has done some really fun other things. She has a cookbook for parents of kids who have braces. (laughs) So she has that really great mindset. So she was pulling together some things that made us in the section look really good, but it was all her creativity, and I got to be the president during the time. [00:13:00]

TEE: Okay. Did your employers know about your activities with SWE?

BS: They did. I would say when I was at Data General—I wouldn't say management knew particularly. A lot of the guys I worked with knew. Interestingly, one of the people I worked with back at Data General contacted SWE, maybe a year ago, not that long before I left, and had seen something that SWE had put out on Grace Murray Hopper. And contacted SWE saying, "I remember how excited Betty Shanahan was when Grace Murray Hopper came to our business, and explained to us who she was and how important she was. And is Betty still there?"

TEE: Right.

BS: So that's how I kind of reconnected with him. So those guys knew I was doing that. [00:14:00] But I wouldn't say management did. When I left for Alliant, it was much more open. And I got a little more support from Alliant in the sense that, I remember we were holding [SWE] executive committee meetings at Alliant, and

our office manager was making a big fuss that everything was nice for us. I got an interview by the Christian Science Monitor while I was president, and that got everybody at Alliant all excited. So I had support to the extent, I'd say, they were happy I was doing it. I think they saw it as a positive thing. But it was a startup and they weren't paying dues for anything. And if I left for a committee meeting or an executive committee meeting, no one looked at it. But everybody was working crazy, long hours anyway, so if you're going to be in all day Saturday the fact that you ran out at four o'clock on Thursday was not a big deal. [00:15:00] So Alliant definitely knew, and I was at Alliant during my busiest period with SWE during the eighties.

TEE: Okay. Do you remember what some of the big issues were, or the challenges that SWE, as a national organization, was facing at that time?

BS: No. And it was—I'd say probably the biggest thing that was going on was regionalization. And I don't know if other section presidents felt this way, or other section leadership. I felt it was very one-directional. Something would happen at national and it came to us. It may have been my lack of experience, but I never felt any of that was really a dialogue. [00:16:00] Now, SWE Boston was big. SWE Boston has always been one of the larger sections, so I would say we had three section reps back in the CSR [Council of Section Representatives] days. So, certainly, the section reps would have been involved in those discussions.

Probably, in so many ways, the difference between SWE now and SWE then is the capability to communicate. And you'd get a magazine, which in those days

was probably more like a newsletter, so you could read things. You'd get packages from headquarters that would be big, thick things, and might have board discussions in them. But it wasn't like there was an Internet and things were posted instantly, or you could sit in a webinar and hear about it. [00:17:00] So at least from my perspective it was more, These things are happening. I remember we had an early region meeting, where there was a lot of discussions about that, but I think it was—. I don't remember any of it being controversial at our level. And probably because of that whole issue that, because communications were at that—I don't want to say "primitive," but primitive level (laughs)—regionalization was something that would give us the ability to connect better with headquarters, because now we'd have the region directors, as they were called at the time.

Other things that were going on that were kind of a big deal to us, a couple of sections started. New Hampshire started—why am I blanking on their right name, but basically it's the folks up in New Hampshire, they started. [00:18:00] I remember Judy Nitsch was their keynote speaker, and that was so big deal. And then the New England Shoreline Section started, I think, while I was president or maybe right after I was president. And I got to be their keynote speaker, and that, to me, was just so exciting. I do remember working on talks for speaking to students at MIT. They were having some kind of a student-oriented conference. And speaking to New England Shoreline, and putting so much time into those talks because, again, this was new experiences for me, and really wanting to do

a really great job. So some of what was definitely going on at SWE were more sections starting to form. [00:19:00]

But again, at least for me, it was very reactive. It was not part of being a dialogue. Dues raising, I remember there was a big to-do about raising the dues, I think, from fifty dollars to seventy-five dollars. And there was a huge amount of controversy with that. I particularly remember sitting in one meeting where Judy Nitsch stood up and spoke pretty passionately that we should support the Society. And someone said to her, "Well, it's easy for you to talk. You've got lots of money." And because I was so personally close to her, I knew she didn't have two nickels to rub together, because it was when she was starting her business.

TEE: Oh, okay.

BS: And she was supposed to be starting her business with a stream of cash payments from a company that had bought her previous firm and bought her out. [00:20:00] And after the first payment they went bankrupt, and she never received any more. So she was putting money on credit cards and all this stuff to try and get her business going. And I remember thinking, You are probably talking to the person in this room that's in the tightest financial shape, and yet she's saying we should do the right thing. And so there was a lot of controversy about taking the dues from fifty to seventy-five dollars.

You know, that's the only thing I really can remember being heated. I was a section rep, but in those days—those were the days of the CSR running until two

in the morning. And CSR was huge because there were so many section reps. [00:21:00] And I don't remember what the discussions were about. I do remember thinking, These don't need to be this long. (laughs) So there was a lot of, I guess, maybe like what Congress does. There was a lot of use of parliamentary procedure, and creating motions, and trying to drag things out as opposed to quickly come to compromise. And I can't even tell you what issues we talked about. I just remember thinking one time we didn't get out that late, and how excited I was. (laughs)

TEE: (laughs) Okay. Can you tell me a bit more about Tamarack Systems, your startup that you—?

BS: Yeah. Yes, so when we started Tamarack we had the thought of doing a parallel graphics processor. [00:22:00] So at Alliant we were doing parallel computers. We had bought a company that was doing a lot of work in graphics, and we were integrating that. Kind of putting it in the context of the time, a lot of early computer graphics work is going on. So data visualization is very hot. It's the first time that there's practical use of algorithms that would help you take data and look at it some way graphically, so you could see it. So, for example, if you were looking at a lot of data on heat, if you start color-coding it now you can start to say, "Oh, look." You know, instead of a zillion numbers, "Oh look, I can start to see patterns where there's hot spots because of the color." [00:23:00] So there's a lot of that, a lot of things like fluid dynamics, all kinds of modeling. That was going on.

The other thing that was starting to happen was animation, computer-generated animation. And I actually had a friend who was working with an animation company, and she used to say, “Tote that bale.” You know, “Pull that barge and render that frame.” I mean, it was so painfully slow in computer animation to render a frame. And if you’re thinking sixty frames a second for an animation, and you’re spending maybe a couple of hours of frame. The computing that was necessary to do high-quality animation was very tough. [00:24:00] And if you look at *Despicable Me* [movie], or one of these—or even some of the things that are much more lifelike. Go back then, what was exciting is, you have an object and you have two light sources and to be able to calculate shadows. You know, this was so early and a lot of that work, again, it would look primitive compared to today, but it was very exciting animation.

So what our thing was, was to really take this graphics processing, this parallel processing we were doing, and try and apply this to graphics. My partner had started a company previously in California. So he was someone that felt comfortable that we would be able to raise money. [00:25:00] So we spent some time really kind of playing with design and what we could do to do the design, really looking at where the parallelism would be in these algorithms. And we spent a fair amount of time trying to raise money. And with 20/20 hindsight, I was woefully unprepared for the business side of this. I was very much an engineer. With 20/20 hindsight, he was not as skilled in this as he should have been. I think in his previous company, they may have been in a situation where they got some

good venture support early on. They were not ultimately successful. They ended up paying out, like, ten cents on the dollar for what they had for funding. Which should have been—you know, made me think a little more carefully about that. [00:26:00]

So we were going through trying to raise venture money. We went to the—what is it—National Association of Broadcasters Conference, and we started to see some animation stuff there. And so we were at that conference, and it's companies like Sony and that. All of a sudden you say, "We're not going to get anywhere. We don't have a unique enough view." It's not like we had proprietary research or anything. We were dealing with state-of-the-art technology. We were dealing with state-of-the-art research, but it was publicly—you know, it was accessible to anybody. So we really reached the point of saying, "Okay, let's call it quits."

Now, while this happened, when we were going out to California trying to raise money, and there were these Ooh La La's in California. [00:27:00] And Ooh La La's were these coffee shops that would make these espresso drinks, so you could get exotic things like cappuccinos and lattes. And you could get a little croissant and a pastry. And I said, "You know, we should open a shop like that in Boston. Get one of those cool espresso machines and start selling those." And he's like, "That's the craziest—no. You could never make money on that."

TEE: (laughs)

BS: So we actually argued a bit about, should we try to do it? Now, ultimately, the fact I knew nothing about retail convinced me that—you know, kept me from pursuing it. Because I hadn't the faintest idea about how to start any kind of a retail business and what you had to do. [00:28:00] But, a few years later Coffee Exchange opened on Newbury Street in Boston. They were ultimately sold to Starbucks. One of the things they invented was a thing called a Frappuccino, because a frappe in Boston is a milkshake.

TEE: (laughs) Okay.

BS: What we call a "milkshake." What they call a milkshake doesn't have ice cream in it. What we call a milkshake does. So a frappe in Boston is the milk and ice cream and syrup. So, the Frappuccino was the coffee version, the cappuccino version of that. And they were sold to Starbucks for millions of dollars, and the Frappuccino is now at Starbucks. And it's like, "We could have been them." (laughs)

So when we finished, when we gave up doing that—essentially, the business stopped as a start-up. I was doing some consulting, so I continued to consult under the Tamarack name. [00:29:00] I consulted primarily for the National Institutes of Health. They had a scientist there who wanted to build a computer to do molecular modeling, and he wanted—. And one of my arguments with him is, Yes, you can design something just for molecular modeling, but it's probably something almost analogous to what we were doing, too, in the sense that it would be so expensive to build a one-off, or build four or five of these. And by the

time you would get something custom-built, general-purpose computers—you know, with Moore's Law—general purpose computers running the code you're running now would have reached their capability, and they'd be significantly cheaper.

So I did a fair amount of consulting with them. I'd fly down to D.C. and look at—they had a couple of engineers there, and one guy was doing design. [00:30:00] But the people they had working on it had never designed a computer. So you'd look at something and say, "Well, yeah, it all looks great except you can't get a backplane with enough interconnects to do what you need to do. That technology's not—." Or you'd go back down and you're like, "Yeah, well that makes—I see what you're doing, but you could fry an egg on this thing. It's going to run so hot. You need to do something—." So, ultimately, they gave up because they realized design isn't just throwing a design down. Design is actually building something that can be manufactured, creating something that can be manufactured and will run reliably. So that was probably the biggest consulting, you know. A few other things.

And then I just kind of gave up on it. I'm glad I did it. It maybe got the startup bug out of my system. But also, I think it made me realize how little I knew about business, and ultimately drove me feeling the need to get an MBA. [00:31:00] Because you just can't—you can make this up as you go along, but there's a whole body of knowledge out there, that it's much easier to leverage that than it is to try and reinvent the wheel.

TEE: Sure. Sure. After you set aside that, you became the manager of technical programs at Cadre Technologies in 1991?

BS: Yeah. Yes. So Cadre was down in Providence. They were looking—they actually created technical programs as a department. Cadre had two parts to it at the time. One was up in Portland, Oregon. They had bought a company that was doing logic analyzers. And then they had—the main part in Providence was doing computer software engineering tools. So because of my background I understood logic analyzers, but with my software engineering degree I also understood CASE [computer-aided software engineering] tools. [00:32:00] So sort of in me they had one person that could do both sides. It was a couple of years, maybe about halfway through my time at Cadre, they actually closed down the hardware side of things. But at the time I was able to fill both roles, grew the department.

Again, in the context at the time, when we would be dealing with customers we'd have to create demos. We'd go to a trade show and it was several hours to set up, because you'd have to get workstations and big monitors, and set them up and load software. So today if you were doing a show, you'll pull out a laptop, and you'd throw it up. [00:33:00] But those days, setting up these custom demos and staging at the trade shows, going with sales people or training sales people on how to do that. Writing technical articles. We ended up doing a lot of responses for proposals. Government was a big part of our business. I actually became pretty good friends, and still am casually in touch with the person that

had all the federal government accounts, because I was just doing a lot of support for doing these RFPs. So it was my, maybe, first step into the marketing side.

Why I went to Cadre was probably more a function of what was happening in Massachusetts at the time. The minicomputer industry had collapsed. I was telling someone the other day, as we put personal computers on our desks totally missed the fact that we had even stopped using our own computers in day-by-day use. [00:34:00] (laughs) So maybe the customers are doing to do that. So what was happening is, the personal computers, which in the early eighties were toys and novelties, became more and more powerful. So they started to—networks of those started to erode the base for the low-rank computers. For some of the bigger scientific applications, workstations were getting more and more powerful, so Sun Microsystems, Apollo—that eventually got bought by Hewlett-Packard. You know, so they're making all these workstations. So the minicomputer that's sitting in this sort of niche is having different parts of its market eaten away. And the 495 beltway and 128 beltway in Boston was just covered with these companies that, one-by-one, disappeared. [00:35:00] So in those days, supposedly, there was a six-month wait to get a moving van to move from Massachusetts to California, because that's where the engineering jobs were.

So my challenge at the time was, companies that I might work for—you know, Data General, Digital Equipment, Prime, Wang Labs—they're going out of

business, or they're laying people off by the thousands. In those days, the world's most powerful microprocessor was being manufactured in Hudson, Mass., which was where I was living. But basically, Digital Equipment, the company that was doing it, they got bought by Compaq, who got bought by, I think—is it HP? So, really, where that microprocessor was being manufactured, I think that's an Intel Fab facility now. It's like that whole industry was collapsing. [00:36:00] So I wouldn't say I was consciously saying, Oh, at this point in my career, I'm going to make a transition to marketing, as much as, There aren't jobs out there for what I do.

So I either have to move to California, which from a personal side—Bob was working for Banyan Systems. They were—you know, when he first went there I was almost laughing at it. They were networking personal computers. Where would that ever get anybody? (laughs) And so he was the fifth employee at Banyan. He was very successful, so moving wasn't an easy option. So this really gave me a chance to stay in the area, and I guess—maybe in some ways fortuitously—make a career change that I really enjoyed. I loved doing that. Part of my job was spending time with customers. Part of my job was spending time with the sales guys. And I really liked that. [00:37:00]

TEE: Okay. How long were you there?

BS: About three years. Cadre—again, I was kind of naïve. Weird things started to happen, very weird things. And a new VP came in, and he was doing a lot of shake-ups and that. And there was some amount of politics. There definitely was

politics going on. My boss didn't get along with the new VP. But what really was happening was the company was positioning itself for sale. And I didn't see that. With hindsight I saw it. So there were cutbacks, and some of my staff was moved and let go. And I just said, "I'm out of here." [00:38:00] Maybe not the wisest way to do it, but I just basically said, "I'm going to look for something else," and decided to just not work rather than stay. Not that long after I left, they were sold. And then, you're just like, Oh, now all this makes sense. And what was happening is computer-aided software engineering, as it was defined then, never really took off. In some ways I think some of what we were doing was a little ahead of its time. Some of what we're doing was being done different ways. So the company that bought Cadre, they didn't last very long, either. It was two companies that were in a market that really wasn't clicking.

So I was going to spend a little time looking around. [00:39:00] And it's my first week off, and I got a call from one of Cadre's partners, Centerline, that said, "Hey, we just heard from—" I also was responsible for the partnerships with Sun, and Hewlett-Packard and IBM, and that—so, "Just heard from Jack Peebles at Sun that you're not at Cadre, you're not working. Well, someone's going on maternity leave. Would you consider consulting? Can you come in for an interview next week?" And I'm like, "Sure, sure." Two days later I got a call, and it was like, "We can't interview you. Just come in and start working." (laughs) So during that period I actually, as a consultant, worked for Centerline. And I actually

got to work with some pretty cool people over there. And it was sort of a bridge, until I went to work for CSPI. So it was about three years at Cadre. [00:40:00]

TEE: Okay. Okay. So can you tell me about CSPI?

BS: Yeah. So let me also start to put this in SWE context—

TEE: Okay.

BS: —because they start to interleaf. So at this point I'm a past president. I remember I was going somewhere. So I'd become very good friends with Pat Shaw. Her husband, Jeff, and Bob are good friends. And we're going someplace, and Bob and Jeff are in the front seat, and Pat and I are in the back seat. And Pat says, "When we were SWE Boston presidents, remember how we used to wonder why the old timers never came to anything? Well, why don't we ever go to anything?" You know, because we were these past presidents that showed up twice a year. It was more social. And certainly I think some of it is as we advanced in our careers the monthly meetings weren't as meaningful. We'd either seen it three times or we were beyond that. [00:41:00] And I think some of the challenges SWE faces is, how do you get section meetings that are able to meet this range of careers? And as the smaller percentage of where our membership was, we didn't have a lot.

So in probably '92 or so, '91, '92 —SWE Boston bids on the national convention. And Pat calls me up one day, and she says, "Have you seen this bid?" Now again, no email or anything like that. "Have you seen this bid? We're down for

these things." So Beth Silverman and Minda Cutcher are championing this. And so we called up Beth. "Beth, we will help you in a little way. We're not taking a big job. No way. Absolutely not. Get our names off that. You know, we're going to be background people." So bid goes off. Okay, that's fine. SWE [Boston] gets it. Oh, that's nice. [00:42:00]

And while I was president, or—it was either while I was president, I think it was while I was president, or maybe right around it—Hartford had the conference, or the "convention," as it was called. And so SWE Boston helped Hartford out. We were doing some different projects, and I think we helped as volunteers there on that. So when Boston was doing it, we're like, "Okay, we'll help in some ways." Well, in '93 it was right after the Chicago convention. So Pat and I were actually going to go to the Chicago convention. She was trying to adopt. It turns out that just as we were doing our registrations, she found out that there was—she was going to be able to adopt who became Aaron, and Aaron was going to be born right around the convention. So that killed her going. And then, at that point, I was like, "Oh, I'm not going to go." [00:43:00]

So all of SWE Boston is in Chicago, trying to watch all of this. Shortly after that convention, Minda Cutcher gets transferred out of the area. So Beth asks me, Would I co-chair? And I was like, "No, no way, absolutely not." And so she said, "Well, would you help me until I find somebody?" I said, "Okay, that I can do." So then after a couple of months of that, I'm down at headquarters in New York with Beth and I say, "Beth, you're not working real hard to find somebody else." And

there was almost a funny scene. She and I are both huge fans of *Car Talk* [NPR radio program], Click and Clack, the Tappet Brothers. We're in Boston, right? And so they come up in conversation. You know, something funny from *Car Talk* that I relay. And this is when I find out that Beth's—she says, "Oh, I love those guys!" [00:44:00] She goes, "I want them for," what we used to call Networking Night. And I'm like, "Oh, I love them." I said, "Okay, I'll do it." (laughs) So I am now the co-chair. And at which point, then we talked Pat into being the treasurer. So it went from the two of us not doing much of anything to, we were—Anne O'Neil was the student conference chair, Beth and I were the co-chairs and Pat was the treasurer. And Diane Kramer from Show Management [convention management company] was our show management person. So this is just as I'm leaving Cadre, I'm pretty much convention co-chair.

I go to work for CSPI. CSPI makes signal processing computers, so very specialized. They're embedded in a lot of applications. Actually, one of the things—I was a product manager. [00:45:00] I wasn't the product manager when they launched it, but one of the products I inherited was called MaxiScan. It's still used to this day. If you get a UPS package and it doesn't have a bar code, it has that funky dot thing—that was developed by CSPI for UPS. It allows very high-speed video, or image processing, so they can scan that dot thing, scan the MaxiScan, and very quickly process the information that's encoded in there. And if you're ever at a UPS facility, packages are just flying. And they're flying because they can process this so fast. So CSPI made the image processing and

developed MaxiScan. Navy was our biggest customer—sonar applications. So when they're towing these big sonar arrays, it was our computing, it was our signal processors that were doing all the computations on the signals. [00:46:00] So image processing, sonar processing.

And it was an old company. When I first started, it was just its twenty-fifth anniversary. The two founders had been there for the twenty-five years, the super genius guys. One had just passed away, and the other retired. So they were like Frick and Frack over these twenty-five years, and suddenly one's gone. And so it was an interesting power struggle after that. There wasn't an obvious successor. It was also a company that was very different from anyplace else I had worked, because I had always worked in places where long hours was normal. Nobody walked out the door at five o'clock. This was very much a—you could set your watch by people walking in and out the door.

I had come in to be a product manager there. A ton of government business, a ton of working on the RFPs. [00:47:00] So it's in many ways like Cadre, working with the sales guys. I had a real good relationship with a lot of the sales people. And they hire a new VP there, who wants to move me to run engineering. And I was like, "No, I want to do this." Partly I want to do this, but part of it was the engineering team was not like any other engineering team I'd managed. They were very—"I worked my hours, and if I don't get it done that's fine with me." So you had a lot of people with a lot of seniority, without a lot of ambition. (laughs) And so I didn't want to take that on. [00:48:00] But in so many ways, it was not—I

don't want to go as far as to say it was dysfunctional, but it was not a place that was clicking, and a lot of in-fighting.

So I'm trying to make all of this work. I'm convention co-chair. There was one fairly high up person in sales who, first of all, really believed in professional societies. He was very active in IEEE. He thought what I was doing with SWE was amazing. And then the Chipp Award recipient gets announced, and it's the head of NUWC, Naval Undersea Warfare Center. NUWC is our largest customer. The sales guy is like, "I can't get within a hundred feet of that guy. You're going to be sitting with him at the banquet and we're making you take vacation days to do this?" [00:49:00] I mean, he was going crazy. He's saying, "They don't understand the access that you have, what you're doing."

So at that time I'm co-chair, which is like a half-time job. This was all going nuts, and a few flukes happened. So kind of on the SWE side, Diane Kramer gets sick and they have to find, Show Management has to put a new person in. And I remember Beth was so frustrated, because she was so—and I liked Diane, too. And up shows Jeanne Elipani. So at first Beth was like, "Oh." But it's so funny, because the first team that Jeanne worked with was all of us. [00:50:00]

So then, we went through a period, and I do not know—so, we're dealing with headquarters. But headquarters was almost the "big, bad headquarters." Elaine Osterman was the relatively new executive director. We would train down to New York to go to meetings at headquarters. We would go to convention management committee meetings with the other sections. But we would get billed these lump

charges for what headquarters was doing, but we could never understand what headquarters was doing. And it was like, Well, we answer the phone and all this. So there was a tension there of, Why are we spending tens of thousands of dollars? What really are you doing? [00:51:00] And I don't want to overblow it, because it's not like we were fighting constantly, but it was not a strong partnership. It's almost like, headquarters does these things, and this is our conference. I remember we had to get the board gifts. I'm like, What are they doing at this conference? Why do we have to get them gifts? We're the ones doing all the work. (laughs)

So we were in many ways so out of our element. We didn't know how to do meeting planning. Thank goodness for Jeanne Elipani, who has more patience than a thousand normal people put together. And she would just really kind of teach us how to do something she could do in five minutes—she'd spend two days. We had the great blueberry/raspberry debate, because we were having—was it French toast?—at breakfast, and they could put blueberries or raspberries on the plate, and which one would we put down? [00:52:00] And we'd waste time on the craziest stuff.

And then, Show Management's contract expired. And I don't know what was going on from a headquarters perspective. All I knew is, all of a sudden, we don't have Show Management. They're supposed to do the program book, and we don't have them. So there is a couple—it would be interesting to figure out how much it was. To me, it feels like there was a few-month period where we did not

have them. And I'm not a person that yells at people on the phone, but I can remember yelling at Elaine Osterman, saying, "You have to get us Show Management. We cannot do this without Show Management."

So we don't have them. I start to do the program book on my Macintosh, my personal Macintosh. [00:53:00] And literally, I was going through a period where I was sleeping five hours, and I'd sleep three hours one night—I'd sleep five one night, three hours the other night. Five hours one night, three hours. And I would go to bed when I'd get tired, and I'd wake up when I woke up, and I was in this funky five/three. I wasn't setting any alarm. And I would either go to work, or I would work on SWE. And I'd be up at 4:30 in the morning working on the program book. And so this was going on. CSPI is just crazy. So I pretty much just said, "This is my excuse to get out of CSPI." So I left CSPI—sat with the president from NUWC (laughs) —and really during that period, just kind of focused on SWE. [00:54:00] Bob was working on his MBA full-time at Babson College. He was living on campus during the week and only coming home on the weekends. During the summer of the conference, he was in Australia for an overseas internship. So he wasn't around a lot during these times where I was doing all that craziness with the SWE conference.

Stone & Webster printed a lot of our little materials for us, like the pocket guide and things like that. So I was literally designing these. You know, you'd have to take it to a firm that would do the color separations for you, and get film. And then you'd have to take the film someplace else. [00:55:00] And so Stone & Webster

was doing a lot of these smaller publications for us. And the program book that's in the magazine was a separate document, so that was separate. Of course, Anne [Anne Perusek, *SWE Magazine* editor] was doing all of the magazine stuff. But so, there was one day, shortly before the conference, where I had driven to Stone & Webster in Boston, and in the back of my car I had all of these boxes that were the pocket guides and the little publications, what we put out on the banquet tables, and that. And I'm probably five minutes from home, and the next thing, there's the police lights behind me and I pull over. A cop comes up to me, he says, "License and registration." You know, so I hand it to him. I'm shaking like a leaf. And he goes back and he looks, and he comes back and he goes—after he did his checks—and he goes, "Are you okay?" I'm like, "Yeah." He goes, "I so expected to smell alcohol." He goes, "You were swerving all over the place." [00:56:00] I was very close. He goes, "You're close to home. Just go home." And I said, "I guess I'm just tired." I was so exhausted that it looked like I was DUI.

And so that was this big wake-up call of, you know, this has got to end. (laughs) And I think that whole experience was such a motivator for me to realize, first of all, I was—we were all, not just me—but all of us were killing ourselves working on this conference, to the point that I'm driving dangerously. SWE was taking a huge risk. What if I got a flu and I was sick for a week? The program book wouldn't get printed. You know, the risk the Society was taking. Because at this point the conference is, like, eighteen hundred people. [00:57:00] The risk the Society is taking—on a bunch of us who don't know what we're doing—to do this

conference. So that—I mean, I was so proud of the conference. The conference came off great.

Oh, the other problem. The other problem that we had was, when Boston had booked the conference we were booked in the Westin Copley Place that had small space. And Show Management was first hired by the Chicago conference. So when we booked we didn't have Show Management. When Show Management came in, they said, "You guys aren't going to fit here. You're crazy." So we literally broke our contract with the Westin and moved to the Sheraton. And I used the Sheraton's conference space. Actually, the career fair was in their parking garage. They draped off their parking garage. [00:58:00] And so we were terrified that we were going to lose money, because if the Westin didn't book that space we were paying penalties. And so a lot of what we were doing, like me doing the program book as opposed to contracting it out, was because we were concerned that we were going to lose money on the conference. Now, in the end, the Westin did book their space, so we didn't pay penalties to the Westin. But we didn't know that until just—(cellphone rings)—whoops, that's me, sorry about that. But we didn't know that until just before the conference.

So, in the end, the conference was very successful. We had a big party afterwards. I got Beth—we had a proclamation from the President, so I got that framed up real nice for Beth. [00:59:00] That was her gift. And she gave me this beautiful pressure cooker that I use to this day, because the conference was such a pressure cooker. (laughs) And there have been a lot of stories about

convention. There's a lot of stories about convention groups not staying friends afterwards. You know, we certainly had a couple of run-ins. There was probably a two-week period where Beth and I were barely talking to each other. (laughs) But we kind of buried the hatchet. And we had very different personalities, so we kind of divvied up our tasks based on those personalities.

But to this day, the four of us at the core are great friends. You know, I was out for one of Beth's birthday parties. I guess it was her fiftieth. And when I was at Region F, we spent time together. And Pat's coming to see us. Anne O'Neil is still in touch. [01:00:00] So when she comes to Chicago she stays with us. So we've all stayed really close. And then, I think even that extended—all the committees around us, everybody stayed really close, and it was all successful at that point. But it was also pretty intense time. The convention was a day longer, in those days, too. So we were programming from, I think, Tuesday night through Saturday.

So that's why I kind of quit. It's funny, because when I—you know, if I'm in a job interview I kind of say, "Well, there were a lot of things going on in CSPI that made me decide not to stay." But a big part of it was, I didn't have the energy for those, because SWE was so dominant. And I ended up doing some consulting during that time. [01:01:00] So there was a small consulting firm called Chrysalis that was near me. And I was probably working—because I was consulting I was doing contract work, not an employee. I was able to just take off two weeks

around the conference and that. But I was probably most of the time working half to three quarters time doing technical marketing type of things for them.

TEE: Mm-hmm. Okay. Okay. In 1996, you joined ASIC Alliance.

BS: Yes.

TEE: Can you tell me what led you to that?

BS: Well, okay, so Rich McAndrew, who was my boss at my entire time in Alliance, started ASIC Alliance. And he started with two other people, and one of them, Bob Fredieu, was one of the engineers I worked very closely with at Alliant. So Bob Fredieu and Rich McAndrew had worked together before Alliant. [01:02:00] Bob was probably one of the nicest guys I've ever worked with, and probably one of the smartest guys I've ever worked with. Just a joy to work with, and a crazy sense of humor, so just a nice guy. Rich is a very, very, very smart guy, too. So he and somebody that Rich knew from before started ASIC Alliance.

They started to do—so often hard to explain. So an ASIC is an application-specific integrated circuit. So it's essentially a semi-custom integrated circuit. It's not the depth of work somebody like an Intel does, that's sort of at a transistor-by-transistor level building, designing the circuit. But it's also not just taking an off-the-shelf component and using it, and what it does it does. [01:03:00] So basically, ASICs give you little building blocks that you can put together to do a specific function for whatever you're trying to build. So you're trying to build some

kind of controller. Okay, what's kind of the heart of this controller? And you embed this logic in this ASIC.

Because you're working at this little higher level, it's easier to design that. But, because it's still an integrated circuit, the cost in both time and money to fabricate it is very large. And there's more technologies now, like field programmable gate arrays came out shortly after I was there, or probably as I was there. So the technologies were emerging that made this a little easier. But in those days it was pretty much you'd fabricate this thing, you'd spend a small fortune. It might take four weeks for the prototypes to come back from Japan. [01:04:00] And if you made a mistake, you start that process over, you know? So a lot goes into simulating these chips before they get fabbed.

But what ASIC Alliance focused on was the verification. And in our world, the designer was the cool job, and verification was the less cool job. But verification was a critical job, because if verification isn't good, you might find a fundamental mistake that keeps you from making any progress until you spin again. Or, you may have to do several iterations that's costly in dollars, and probably even more costly in time to market, because you're trying to race this thing out to market. So what Rich's philosophy was, which was very successful, was, We'll do verification. We will do the best quality verification you've ever seen. [01:05:00] We'll do the job you don't want, your employees don't want to do, but you know is absolutely critical. And we'll charge you for it.

So Rich brought me on to do kind of the marketing for it. And in ’96, so what was happening—and the other thing, when I left CSPI and started going with Chrysalis and that, Bob would graduate with his MBA in ’96, and I wanted to move. We jointly wanted to move to a more urban environment, and because my parents were getting older I wanted to move back to Chicago. So if you ask Bob, he wanted to move to Boston, San Francisco, or Chicago, in that order. And I pushed Chicago to the top of the list for family. So the other thing that was great about ASIC Alliance is the types of things that I was doing, I could do remotely and just fly back and forth. So we moved to Chicago in June of ’96. [01:06:00] Actually, Bob moved with the cat first. And I was finishing up a project and slept on Pat Shaw’s couch for about a month, and then followed him out. And I just kept flying back and forth with ASIC Alliance.

It was really cool. A lot of the guys I knew from previous lives were engineers there. It was very successful, from a business development point of view. I was supposed to be helping in business development and that. It was easy to sell our services. Our problem became cash flow, because you pay an engineer at the end of two weeks. [01:07:00] You may not bill the client for another couple of weeks. They won’t pay you for sixty days—and interest rates were a lot higher in those days, so they had no motivation to pay you. So you could easily be approaching ninety days—you know, sixty to ninety days after you’ve actually laid out the cash to the employee before you see the money coming in. We also

had so much business we were trying to hire more. So Rich really reached the point of saying, “Stop trying to get us business, and try and get us engineers.”

And also at that time, too, I was doing some development work, too. We were creating a tool to help generate—when you’re doing these verifications, you have to run all these test patterns against the chip, so to generate the test patterns. So we were trying to automate a lot of that. [01:08:00] So I was actually coding the tool that was doing that automation. There was one other person and myself sort of working on that part. So we reached the point where I actually ended up spending a little bit of the time doing more and more consulting, simply because we didn’t have enough people to meet the demand, and we needed, I guess, more technical contribution from me, because of this whole cash flow. So ultimately we kind of reached the point of saying, Well, I need to be doing—ASIC Alliance needs me more in Massachusetts, but I’m living in Chicago. I’m getting more back into the engineering, which isn’t necessarily, at this point, where I saw my career path. So just reached a very amicable thing of, Just go find a job in Chicago. [01:09:00] And so it was just a very amicable split and everything like that. Rich McAndrew was one of my references when I went for the SWE job. So all that was good, but it was just where they were. They became Zaiq, and really lasted a fairly long time. Of course, as technologies change and all that, that company no longer exists. But it was fun.

TEE: Mm-hmm. Okay. So in Chicago—you left ASIC and Zaiq in 1997, and that’s when you started with Stellent?

BS: Yes. So as I said to someone, "You can tell when you're in a technology company, because there's seven names for the company you work for and you've never moved your desk."

TEE: (laughs)

BS: So yes, we were—so, I joined a division of Inso Corporation. [01:10:00] So Inso was a spinoff of Houghton Mifflin in Boston. So Houghton Mifflin—if you look at old, old copies of Microsoft Word, you'll see it's Houghton Mifflin's electronic dictionary in that. So and then if you look at more recent, later copies, you'd see it said, "Inso." So a lot of things like the dictionaries and that, that were embedded in early word processing—that was out of Houghton Mifflin, and ultimately Inso that became a spinoff. They bought our division, which was an independent company. And this before I was there. They bought our division. And what the company did was file viewing conversion technology. So kind of put yourself back in the nineties, you know, there's people with—there's seven word processors out there. If you have Word Pro and I have Microsoft Word, we can't ready each other's documents. [01:11:00] There's Lotus Notes. There's a gazillion apps out there for presentations, for spreadsheets. And you can't see them.

So what our technology did was take those documents in their native file formats, and either read them or convert them to something else. So they could convert them to HTML for the Web. They could convert them to text, so a search engine could search them. They could pull out the document properties. So a document

management system could get some of the metadata. So that's what our technology did and still does. So we used to joke we were probably on more desktops than any other technology, but people didn't know us, because we were embedded in things. [01:12:00] In Google Mail, if someone sends you a Microsoft Word and you open it as HTML, it was our technology that converted it. Almost every search engine used our technology to search documents.

So I went to work there as a product manager. Life was good. It was across the street from where I lived. So I'm working on my MBA at the University of Chicago part time, and literally—as I told a friend of mine from Massachusetts who was teasing me—I get up in the morning, I go next door to work out in the health club, I cross the street to go to work, and I go two blocks over to go to school, and I come back. I can work out, go to work, go to school, never get in a car, and walk less than a mile. So it was a pretty nice lifestyle. [01:13:00] In many ways, I would say a similar kind of role as I had had, but really great bunch of people there. I worked with some engineers that were just really sharp, a little crazy, a lot of fun, a lot of camaraderie. Just a really nice place to work. People worked hard, but they also were very supportive of each other. I remember one time, a couple of the engineers came up to me and they said, "You know, we think of you as an engineer." I'm like, "I am an engineer." (laughs) And they're like, "No, you're—." And they literally said, "You're on the dark side," because I was in marketing.

So Inso itself had got in trouble. Inso acquired a couple of other companies, and then they started—they got in trouble with the SEC [U.S. Securities and Exchange Commission]. [01:14:00] Very sad situation. And they were basically putting product into international distribution channels with guarantees that they would take back the product, but booking the revenue. They weren't booking an amount for returns. They didn't—you know, in the books there should be something that said, We're not going to recognize this revenue; we're going to hold it in case of returns. And they didn't do that. And it was a public company, and they did it one quarter, I guess. As I heard the story, they did it one quarter because we were going to be a little short of revenue expectations, figured they would make it up the next quarter. Well, the next quarter, again and again and again. So it was a bad, bad situation. In the end, one person committed suicide. One person did jail time. You know, just sad stories all around. [01:15:00] And no amount of money is worth someone committing suicide, but when you get down to it, it was pathetically small. You're talking about a few million dollars type of thing, not—just take your lumps with Wall Street.

So a lot of bad stuff was going on, and our little division's sitting there in Chicago. And the main product they were betting on, too, was a very, very, very high end document management system. It was used for things like newspapers, putting content out on the Web on a day-by-day basis. And they weren't doing as well with revenue. So all this craziness going around, they actually sell us off. So our division got sold to a company called Internet Solutions, out of Minneapolis. Our

running joke was, they wanted someplace warm to go in the winter, so they bought a company in Chicago. (laughs) And so Internet Solutions bought us. [01:16:00] Internet Solutions changed their name to Stellent, because that wasn't a very good name, you know. I think when they were first that the Internet was not an everyday word. And then, once it became an everyday word, it was like, Well, that's not a good name. So they became Stellent.

They made a content management system. And in some ways I'm not sure it made sense to buy us, because they could license the technology from us. They didn't need to own us. And as a matter of fact, we ended up in some very awkward situations, because we also sold to their competitors, who were making other content management systems. So, you know, we'd have their sales guys calling us up, trying to ask questions and, you know, "You can torture us, but we won't tell you." Or we'd have projects where, "Okay, you guys. You work on this, you work on this. Don't you guys talk to each other? Because one of you is seeing the internals of the Stellent stuff. The other is working with our customers that aren't Stellent." [00:17:00] And, you know, keep any kind of proprietary information from moving around.

So I very much enjoyed being there. I moved up in the organization. I ultimately became VP of product management and marketing there. For a good part of the time I was there, we had a president. He moved on. He was probably one of the smartest people I'd ever met. I mean, it was amazing what he knew and could remember and think through. But he banged heads a lot with our parent

company in Minnesota. So ultimately he left, and it was just myself and the VP of engineering and the VP of sales that were kind of running the division at that point. [01:18:00] And I was having a good time. I was enjoying it. I was pretty excited, more responsibility. But I've earned my MBA during this. I was doing my MBA part-time. And in second quarter 2002, we don't have the president anymore. We're kind of this team running the division. I had a nice department, a great bunch of people, and we worked really, really, really hard to make our numbers. And I remember how excited we were at the end of the quarter. We'd made our numbers, this division. And we had this sort of whole vision of making this division just really grow. [01:19:00] And part of me had a little bit of a—maybe I can try to be the president of this division as a career step. So I was excited.

Early July, or mid—probably about mid-July, before the earnings came out, we got informed that our parent company has not made their numbers, and we have to cut expenses and we have to lay off. And so here are all these people that have just worked really hard, been successful, and you've got to lay them off. And I remember I had all—so, my team was geographically distributed. And I had everybody coming in for an all-team meeting. And it was just a couple of days after I had found this out, but before we had done the layoffs. So I'm literally—I have one guy that has flown in from Oklahoma, and it's like—I'm laying him off next week. [01:20:00] And it was so funny, because some of the guys were saying, "We could not figure out what was up with you." They could tell

something wasn't right, but they couldn't tell what it was. And I remember being in some of those meetings, because there was one point, like I just wanted to snap at somebody, "This isn't important. You still got your job." You know? It was just so hard to lead the team. And they were—they could just tell I wasn't driving things, because I'm not trying to make people work hard when I know I'm laying them off next week.

So then, when that happened—I'm in the midst of all this, and SWE calls. And Rachel McQuillen calls me up and says, "Would you ever think of putting in your resume for SWE?" And I kind of, "I'm not an association manager," and all of that. And I guess what's—in the late nineties, early 2000, when Sherita Caesar was president, she asked me to do a business plan for the conference. [01:21:00] So—well, let me finish Stellent, and I'll come back to how we kind of got to me there.

But so, I go home and tell Bob, and Bob's like, "Well, you spend all your time in SWE anyway." And he says, "You always say when you're going to retire, you're going to work for a nonprofit. Why don't you just go for it?" So I did. And the further I got down the interviewing process, the more excited I got about the SWE opportunity. Because, as I started to interview, when I started to talk about where I could have some vision for SWE, and really thinking about SWE as a business. Now, at this point, I've got a whole different set of experiences behind me, and I started to think about SWE that way. Like, this could be really cool, to just take something I love, and try and grow it.

So I get the job, I call up my boss to resign. [01:22:00] So I'm reporting to an SVP in Minnesota. And the first thing he says to me, "Well, you knew you weren't going to go any further in the company, unless you moved to Minneapolis." And I thought to myself, No, I didn't. I thought I could be president of this division. And that really just said to me, This is how they think of this division. They're not seeing this division as the successful—they're seeing this division as something that brings in some revenue to fund them. And growth paths in this company is joining them, not making this more successful. So, we had kind of an amicable parting, and I think in some ways it probably—you know, they're shrinking us. It's like, Oh, good, now we got rid of a higher head count. [01:23:00]

Those guys—I walked past that building every day going to the SWE offices. Or, I should say, once SWE moved to LaSalle Street, I walked past that building every day. I would run into guys that I worked with. You know, probably still in touch with a dozen of those guys over there. And it's so funny, because there were guys there that I'd worked with that had been there seven, eight years when I started. They had been there a good dozen years when I left for SWE, and a dozen years later are still there. Oracle bought all of Stellent, I don't know, four or five years ago. I've kind of lost track of time. So if you go on Oracle, and look at their Middleware, as they call it, it's still the Outside In Technology. It's still the same products, the same product line. It's just being updated for more formats going in and more formats going out. [01:24:00] I really loved working there. It was great. But it was also—it really reached the point of saying, "How do I lead

people? How do I tell people to really work hard if it's not going to make any difference?" Because it's what the parent does.

So what was happening in parallel is, when we were doing the conference Beth always was going to be—Beth had an aspiration of being the SWE national president. And I didn't. So Beth did a lot of the outward-facing things. She worked with the board and that. And I did more of the inward things, like working with Show Management. Beth was going to be the convention management committee chair, which would be one of her steps in SWE leadership. And I wasn't, and I was done. [01:25:00] Well, the fiftieth anniversary came up. So Beth decided she wanted to chair the 50th anniversary, which meant that convention management committee fell to me.

So I'm on the convention management committee, and I'm doing the things, trying to share the information. In fact, I was just reminiscing with somebody the other day. There was one day I had to fly to a board meeting, just to go and explain that by giving a cash advance to a section to cover their initial expenses for running the convention was not going to hit your budget this year, that it's—you know, you're working with prepaid stuff. It's not a budget issue. So in the course of going to these board meetings and doing that, at one point, when Sherita Caesar was president, she said, "Go write a business plan for the convention." [01:26:00]

And it was kind of an obvious thing to do. I'm like, "Okay, I'm a product manager. I write business plans all day. This is easy." And I'm on the plane going back to

Chicago, and I'm like, What did I just sign up to do? I'm working full time. I'm working on my MBA. I'm coming into a term where we hit sort of the capstone year. It wasn't called a capstone, but it was like, if you're in strategic management for a concentration, this is the culmination class. I've got that class. We've got to do a big project. What am I going to do? And then I thought, I'm going to make the project for the class the SWE business plan.

So literally the next week, I'm in class and everyone's going around with their projects. And I'm saying, "Well, I have a nonprofit that has a project, that if you're interested in working in a nonprofit, it would be a business plan for the convention." [01:27:00] And so there was this one guy who had done a lot of projects with me. And he goes, "I don't care what you're doing, I'm just going with you." And a few other people came up like, "Oh, yeah, I'm really interested." We actually had one more person on our team than we were supposed to. We had to work with the prof to get an okay, because so many people were excited. And this business plan came out that had all kinds of things. It moved the date from June to October, actually shortened the convention for a day. It said, Move it to headquarters. It really highlighted what was, I think, becoming more and more obvious, which is the Society was putting itself under terrible risk by putting something so big in the hands of volunteers, where you don't have a control over their lives. I think Houston [1998 conference] was either just happening, or just had happened. But the four core people that started Houston were not the four core people that were there later, because things happen. [01:28:00] You get

transferred. Your family demands change. So it was, Move it to headquarters. There was some suggestions for governance changes. And I presented the business plan to the board, and I presented it at—I think by that time it was probably COR [Council of Representatives]. I presented it at the COR. I remember Libby Allman was presenting something via video, because she was, like, eight months pregnant. And so she's on camera with the big belly. And I'm like, Oh boy, I get to follow Libby, who is, first of all, who is just such an amazing speaker anyway. It's tough to follow her. But she's the coolest speaker, too, because she's about to be a mom. Oh, who was with me? Was it Denver? [01:29:00] I'm trying to remember. Someone else from CMC presented with me. Sandra Scanlon. I think Sandra Scanlon from Denver was presenting with me. So did all that and then that was it. So this would be 2000, I guess, or so. Late '99 or early 2000, I presented that, and then sort of went off and did my thing.

And then later, I got asked to do some—in the fiscal year 2003, I was actually the committee—it was probably more of a task force. I think we called it a committee, but it was really a task force created to look at how to do programming for executives, executive members in SWE. So the executive summit, that was my volunteer job when Rachel called up. [01:30:00] So once I became the executive director, then I worked with Suzanne Jenniches to create the executive summit, kind of carrying over that volunteer job. So that whole business plan and that was, I think, what gave me the national visibility that kind of put me on the radar screen for when they were looking for an executive director.

And then, coincidentally, SWE headquarters, when it moved in 2001, moved half a mile from where I lived.

TEE: (laughs) That's handy.

BS: Yeah. (laughs) And that's the other thing I sort of feel like is, if the job was in New York, I would never have done it. But it was almost like the stars were all aligned between not feeling good about the situation at Stellent—my own personal situation I felt fine about, but the leading the team was harder—headquarters had just moved, and it was just kind of an exciting place to be.

TEE: Okay. Can you tell me about the vision that you presented to the board during the interview process? [01:31:00] What did you see? Where did you see SWE going?

BS: Mm-hmm. I think I would summarize that I presented as SWE becoming more of a staff-run organization. And I think a big part of my appeal—if I can map myself onto where they're sitting there—was I had been the volunteer that had done a lot of these things and said, "That's not a good value for the volunteers." And so I argued—some of it was maybe some of the arguments from the business plan, too. [01:32:00] There was a concern, how would the—so, now it's getting renamed from "convention" to "conference"—but how would it make money if we have to pay staff to do things volunteers do? We make significantly more money now, because really, you've got professionals. You've got continuity.

A big part of my vision was trying to create value for the member who doesn't fit into the sweet spot of a section's programming, and going back to, Why don't the old timers go to anything? So I think SWE's sweet spot in a lot of sections is maybe just out of college to seven years out of college. [01:33:00] So how do we turn around, and everything from the conference—now, in those days we didn't have webinars, but professional development. How do we create that value? And then, how do we get as much as possible out of the hands of leaders, so that their leadership and time investment is either core to the mission or helps their professional development?

I remember one of the things that was a bit of an issue when I was being interviewed, that had come up, was all of the program management experiences people get running the convention. And my argument is, they're not worth the price that you pay. [01:34:00] Someone said, "You really can take those experiences elsewhere." I said, "Probably the only person that could would be someone moving into a job like an executive director or a meeting planner, you know." As an engineer, I don't need to run eighteen hundred-person meetings. Even as someone that was running marketing, I had an events person that you'd say, "Go organize a fifty-person sales meeting." I'm not deciding on, is it blueberries or raspberries on the plate?

So I remember I talked a lot about what I called the Coca Cola model. And if you think about Coke, there's a vault in Atlanta with the secret formula. There's a small number of places, I don't know how many, that make syrup. And there's

bottlers all over the place. [01:35:00] And those bottlers are the ones that take the syrup, put it in bottles, take it and put it in pop machines, the fountains. They're the ones that kind of distribute the magic formula. They—the bottlers—get point-of-sales kits, so they have something that looks one way if it's a 7-Eleven, another way if it's a great big grocery store, another way if it's a ballpark, if it's a major stadium. You don't have bottlers sitting around, saying, "Oh, I have to go to 7-Eleven today, and I have to go to US Cellular Field. I need to create something," the same way we were all sitting around creating membership brochures and all those kinds of things. [01:36:00] So the section are the bottlers. And our job, as a national organization, is to feed the bottlers marketing and syrup.

And I think a lot of what's come out of that are things like event-in-a-box for outreach, Wow! That's Engineering! And I remember talking about sitting in Beth Silverman's living room cutting a gazillion pieces of cardboard for an event. Why are we doing that? Why can't we just get a box of stuff? Why can't we just get Agilent kits and save the volunteers, save the members' time so that her time is spent on her own professional development, or the value-added part of outreach, which is being with the girl—and not cutting cardboard. So things like webinars that you can replay, marketing materials that you just—you go to the [SWE online] store now, and you just get a batch of marketing materials. [01:37:00] Making it so that stuff's always there, so you're not hoarding—which we used to do, because headquarters would run out of stuff. And because headquarters

would run out of stuff, you'd get too much of it. You wouldn't use that, and it would get out of date. So you either wasted it or you're using it out of date. So make sure there's always marketing materials there, so that any time—you know, sections don't hoard anymore. They don't have to, because they know they can just go and get what they need.

So that was, a lot of that mindset was to really transfer a lot of the work to headquarters, and make sure the work that was transferred is the busy work, or the work that should be done once and not repeated four hundred times by every section. [01:38:00] And let the sections focus on their own development, and the outreach that's unique, that only a woman engineer can do. And it worked! (laughs)

TEE: (laughs) What were your goals for those first few months in the position?

BS: Oh, the first few months were really—I mean, really, when you get down to it, probably the first eighteen months were very operationally-focused. We had just moved headquarters from New York to Chicago. So when I got there, it was maybe about eighteen months afterwards. And there was a lot of dissatisfaction about headquarters. Some of it was justified, some of it was urban legend. [01:39:00] But I had to fix what was justified to get beyond kind of the urban legend. So there was a lot of, really, roll up my sleeves and get things straightened.

So my second week was the first October conference. And I took a few weeks off between when I left Stellent and when I started at SWE. And I remember Rachel McQuillen called me up. They weren't getting registrations. So here I haven't even actually technically started yet, and already it's looking like the October conference is going to be a failure. And get on the horn to a bunch of deans and try and get the students there. What we now know, and really what was happening, is that the students don't register until closer to the deadline, because they're just getting back to school. [01:40:00] And their first day of classes, they're not running to register for the SWE conference. As a matter of fact, they're getting organized. So there was a lot of concern about registration, but in reality Detroit [2002 conference] broke a record then. And that was an early conference. That was early October. So when we were panicking in sort of the middle of September, they still weren't back to school, or they were just getting back to school.

A lot of concern about us getting ready for the 2004 conference, so trying to transfer all that information to headquarters for the 2004. [01:41:00] So a lot of it—because Bostrom [association management company] was still relatively new with SWE, there certainly was a lot of getting things straightened out there, and getting a confidence that we would be able to take on this extra responsibility. And the business plan—sort of a hand-wave, you know. Headquarters will magically make all of this work. And then, all of a sudden, it's like, Oh, I'm headquarters. Now, I've got to figure it out. (laughs) There's that really great

picture of the two scientists, and there's all these equations up on a wall, and then it says, "And then, a miracle happens." Yeah.

TEE: (laughs)

BS: And so the business plan was kind of like, "And then a miracle happens." And so now I've got to figure out what the miracle was. So pretty much the first, I'd say through the end of calendar [year] 2003, I would say it was very heavily operational-focused. [01:42:00]

And we did do some innovative things. I think in 2003 we did the first webinar. CPC [Corporate Partnership Council]—the CPC was a concept, but we'd never had a CPC meeting. So I'd say that might be the other big thing, was a real revenue concern. So the board had approved the CPC. I think Sandy Postel was one of the people that presented it. There was a very rigid definition of what a company would donate. You're going to give this much for this or that, and it was very rigid. But nobody had kind of signed up yet. So in January of 2003 we held the inaugural CPC meeting, with—I think nominally we had twenty-three attendees. [01:43:00] We actually had a snowstorm so we lost, I think, a couple of people who just physically couldn't get there. But there were twenty-three companies for that very first CPC meeting. I remember I was, after a couple of visits, arguing with the board, "We can't be rigid." You know, the analogy I gave is, if you're buying a Kia you're buying whatever's coming off the lot. But if you're buying some high-end Cadillac, you get the color you want. You get the interior you want. You don't just pick up what's on the lot. And it's like, we're not selling

the cheapo car. We're selling the high end, and we've got to give people options or they're not going to bother.

And I started to do corporate visits. I remember my first corporate visit was to Exelon, in probably November [2002]. [01:44:00] I wasn't with SWE very long. I pulled together a presentation. I went out there and talked to them. I came back and I go, "This is fun. I love selling SWE. (laughs) I'm going to have a good time doing this." So I did a lot of corporate visits. It was funny, because at the time the board was looking at it like spring is the time we do corporate visits. And because the first time we were doing a lot—and at the time, I was going with the president a lot—was that time of year. I was like, "No, no, no, no. We do corporate visits all year long. We do it when they want to see us." But at that time, it was rare for anyone to go and visit our big partners. And it's like, "No, you don't build big relationships without looking them in the eye." [01:45:00] So we'd go to do those visits.

So I'd say that's probably the other place, was getting the whole fund development solidified. It was very—in those days, it was pretty heavily in the hands of volunteers. So someone, a volunteer, would get a relationship with an ExxonMobil, get a grant. That volunteer would move onto something else, things weren't necessarily followed up on. I remember we had some grant for section vitality, and there was an expectation that the committee chair would be the one following up with the donor to say, "This is what we have done." No, the volunteer's busy running the committee. They shouldn't be managing the fund

development. So that was probably the other place, was a lot was being done to build those relationships and to start to get some serious corporate money. [01:46:00] First CPC meeting had twenty-three people at it, and it was really starting to work with them on, How do we make this a successful thing for them? So I'd say those were the, probably—I mean, the fund development never left. It's still critical.

Then after, as operations kind of hit more of a steady state, we got smoother. Then more time would be focused on programming, developing programming over time. And this is probably where I should go back and create a timeline. Like, when did we start doing public policy? Actually, I can tell you when we started to think about it, because I was with Alma [Martinez Fallon]. So it was Alma's year [as SWE president]. Alma was the person that was saying, "You know, why don't we do this?" And she was very big in being involved with ASME. [01:47:00] She was in leadership, and has since held very high board-level positions at ASME. So she arranged for us to talk to ASME about how they got involved in public policy. So as operations settled down, that's when some of these more strategic activities came to the forefront.

TEE: Mm-hmm. Can you tell me about SWE's involvement in public policy, and why you thought that was important to pursue?

BS: Yeah. So to maybe preface this as I'm looking at next career stages, some of it is, What are you proud of at SWE? What kind of over-arching accomplishments? And maybe in one way the thing I'm proudest of is, I think SWE is respected.

[01:48:00] I think when I first started, or when I was a SWE member, there was more of a sense of, This is what the girls do, isn't it cute? And you girls go over there and you have your nice tea and whine about us men, and then come back and go to a "real" society meeting. And I feel that there was—I mean, definitely there were places that respected SWE. But I felt that when I went to the first AAES [American Association of Engineering Societies] meeting we were second-class citizens. That in so many companies, it wasn't where they'd pay your dues or pay for you to attend. So what I get—I think one of the things I think that I'm proudest of is, now SWE is someone a discipline society would call up and say, "Oh, can you help us? [01:49:00] What can we do? Can we partner with you?" That we're being called. That an employer will say, "Can you come in and talk to our executives." You know, that SWE says—what is it? E.F. Hutton [company]. "When E.F. Hutton speaks, people listen." When SWE speaks, people listen now.

Or, that I'm with the president, and I walk into where there's other engineering societies. Like, "Oh, SWE's here. Hey, come sit with us. Sit with us. Oh, we were looking at your website." I remember walking in with one president, and we were with the ISA, International Society of Automation, said, "Oh, sit with us! We were looking at your website, and your website's great. And we're doing this and that—." And it's like they're paying attention to us in very positive ways.

And public policy is a big part of that. And using the term "advocacy" even more broadly as a big term, is a big part of that. [01:50:00] It's advocating with the employer, advocating with the academic institutions, standing up in front of the

Engineering Deans Institute and telling the deans why Title IX is valuable to them as a tool to increase their gender diversity in their institutions. And I think if you go back fifteen years ago, it would be unheard for SWE to stand up—first of all, to even be told where the Engineering Deans Institute is, but to stand up in front of the room full of deans and tell them that.

So public policy, first of all, gave us the platform that we can legitimately represent the members. [01:51:00] Because one of the things I think, from a SWE side that I always had to remind myself is—although I am a very proud member—as the executive director, it's not my Society. It's the members' Society. So when I speak, I should only speak—or, when the president speaks, she should only speak feeling confident that she's representing the members. And the way to do that for some of these issues is all of the formal and pretty rigorous procedures we go through to get a position statement approved. Now, once you get a position statement approved, you have a platform that carries you for a very, very long way. But getting to those couple position statements that SWE has is very rigorous for a good reason, because it gives you the ability to say you're speaking for the members. So first of all, what public policy gave us was the ability to have that voice. [01:52:00]

Secondly, it gives the members something to recognize, that their membership in SWE doesn't just help them, but it's what SWE does when we're speaking outside our walls that helps gender diversity in our profession. So be it that we're at a briefing, or that we're giving, you know, a member looks at a position

statement and talks to their local school board, or that we can talk to another engineering society and get them to support something—that increases the value of SWE to the member. It increases the value of SWE in advancing the mission. So our mission—when we're internally-focused our mission goes one distance, because part of our mission is empowering women to be better in their careers. [01:53:00] And that certainly advances our mission. But if the laws are in place that facilitate a career being in a better—it's easier to progress in your career. If the laws or the policies are in place that more girls study science and math and engineering in K through 12, that advances our mission.

So at almost every CPC meeting, I would at some point say, "SWE's mission is carried out when you, the employer of women, give women an opportunity to move ahead." [01:54:00] And that's why, as important as the money is that comes from the CPC, as important is the support of women that comes from the CPC. So the more we can train a company on—or, "train" is not the right word—share resources with a company that says, Here's how you create opportunities. Here's how you knock down barriers. Here's how you build inclusion. Here's the issues that you have to deal with. The more that we can give them this research-based, valuable information, the more our mission is carried out. Because now, all of a sudden, it's not just about fixing the women. It's about fixing the environment.

And that's maybe where a lot of our public policy is. [01:55:00] I will say to women, "It's important to know what you're up against. There's times you have to

be a white man—you have to act like a man to get your point across. But when we become white men in high heels, we lose the value of diversity." A quote that gets thrown around a lot, but it's really true. But we will help women be successful in ways that may not be authentic, and recognize that you're going to do that in an inauthentic way. But on the other hand, if the employer, if the academic institution that someone's studying in, understands how to be more inclusive we don't have to fix the women as much. And now, women are going to be more successful. And that's our mission.

So I think that's what a big part of public policy and, more broadly, advocacy is. The internal focus is fixing the women. The external focus is fixing the environment. And some of it's little things. [01:56:00] When I first started, I'd be at AAES meetings, American Association of Engineering Societies. I'd be at these meetings and I'd hear, "diversity organizations" and "professional organizations." You don't hear that anymore, because myself and Michele Lezama have them trained to say, "discipline-focused professional organizations" or "discipline-focused engineering organizations," and "diversity-focused engineering organizations, diversity-focused professional—." We're all professional organizations. We're all engineering organizations. It's just, you're discipline-focused and we're diversity-focused. And it's getting that respect. We're not something less. We're something equivalent and different.

And then start to—you know, and some of the advocacy is challenging. How many women are on your board? Look at the pictures of all of your award

recipients. [01:57:00] Pretty homogenous group, there. Really start thinking about diversity. And I think some of what we've done in SWE, too, is really shared, too, that we struggle with diversity. We tend to be white. We tend to be straight. We don't have a lot of women with disabilities. We don't have a lot of women outside of the United States. You know, if we're going to be the best we can we need to be an inclusive organization. So it's easy for us to turn around and say, "It's not just us pointing a finger at you. We've got to do it ourselves. And it's a hard journey, but we're on that journey. You get on that journey."

And I think public policy and broader advocacy—so, we certainly do, I think, some great activities on the [Capitol] Hill. [01:58:00] But almost unnoticed is, our advocacy has broadened in parallel with that. And we do speak in public forums much more often in influential ways since we've taken this attitude about focusing outside, and not just inside.

TEE: Okay. A little earlier, you had discussed the CPC. How did you have SWE—how did you explain the value of SWE to those organizations? How did you encourage them to join the CPC, to support SWE, and to support their women engineers, and women, female technical staff? [01:59:00]

BS: So it's maybe a multi-pronged approach. At some levels, some of it's putting on a product manager hat. So as much as I see myself as an engineer, I very much see myself as a product manager, too. And what does a product manager do? Go out and understand the landscape. Understand the customer needs. Build a product that responds to that. I think at a foundational level, we had those original

twenty-three companies. We had Sandy Postel at Boeing and Kimberly Gavaletz at Lockheed Martin as the initial chairs. And really, that group was one that was the customer base that you could understand, and would work with SWE, and me particularly, and then after we hired Karen [Horting], Karen to really figure out how to make this product.

And so there's a few pieces to it. One is listening—what are their corporate priorities? [02:00:00] SWE—as opposed to, I'd say, a lot of the other diversity-focused organizations—has the advantage of, I think we have a number of components to the organization that will be of different values. So it's always fun when you go into a company that says, "Oh, we're doing Wow! That's Engineering! now. There was a local Wow! event, and now we do Wow! internally, and we love Wow!" Okay, so the company cares about outreach, be it they take our Wow!—or a company cares about outreach, there's ExxonMobil, they get funding for it. If it's a priority, we have outreach. If you want to hire, we've got a zillion extremely talented collegiate members that are looking for jobs. [02:01:00] If you want to advance your women that are working there, I think we're unique amongst a lot of the diversity-focused engineering organizations in that we have a very large professional base.

And in terms of selling a company, I can walk in and I can say, "If it wasn't for Wendy Baker at Michigan State, our SWE advisor, I wouldn't have graduated from engineering. I would have left. If I wasn't going to that SWE/AMITA conference, I'm not so sure I would have stayed in engineering." I was feeling—

you know, now that I work for SWE, I know what I was feeling is called “isolation.” At the time, I thought what I was feeling was something wrong with me, that I wasn’t a good engineer, that I couldn’t hack it. So I can very personally say, “SWE kept me in my profession. SWE gave me these opportunities that helped me advance in my career.” SWE taught me how to make a presentation before I had to do it at work. SWE taught me how to talk into a microphone before I had to do it at work. [02:02:00] So I can say, “SWE gave me a bunch of friends that, when I couldn’t figure out what was going on, helped me decide how to attack a situation. So I can personally tell you, SWE benefitted me.”

Then, start to talk about how, Do this for your women. This is how you retain women. And it was, in many ways, it sort of becomes a positive cycle, because you—thank goodness for Sandy Postel in Boeing. Sandy had put in all kinds of wonderful things at Boeing that she shared. So you go in and it’s like, Here’s how Boeing has set up these women’s organizations. Here’s how Boeing uses the conference. Here’s how Boeing—. And it’s not just us saying here’s the potential, but here’s a world-class company that has leveraged us. [02:03:00] And so a lot of selling to the CPC is really turning around and saying, “Let us help you beyond when the person walks in the door.”

When we redefined corporation membership, a lot of what we were doing with corporate memberships—when we redefined corporate membership in, I don’t know, 2004 or so, we changed it so that there’s nine SWE memberships involved. You can use them however you want, not telling you this is what you

have to do, because we're flexible. But we might suggest, "Why don't you give three to executives so they can watch what's going on? Why don't you give three to active SWE members, in kind of recognition for what they do about bringing SWE into your organization? Why don't you give three to new employees, so that they start to get engaged here?" [02:04:00]

So a lot of the heart of the CPC, which I think is different from a lot of comparable structures in other organizations, is we're not just about taking your money and thanking you. We're not just about helping you recruit at the career fair. We're about helping you be more successful in gender diversity and diversity in general—in your corporation, in your government agency, in whatever structure you are as an employer—so that you have value. And that you want to belong to the CPC because you have value. [02:05:00]

You know, some of the things that I just find so rewarding is to watch a new person walk into a CPC meeting and see them immediately get absorbed into this very collegial environment where they call each—they're a network for each other. So they can call each other up. So I might work in energy, and I can call somebody up in consumer products and say, "This is what's happening. Can you help me see something?" Or, they'll stand up and say—we'll have a topic, "How do men support SWE?" —and listen to three men tell three very different stories of what they've done within their companies, and people madly taking notes. Or how mentoring programs work. So sharing information. And it's so rewarding to see how much people who are committed to advancing diversity in their

organization get from SWE, either directly from SWE or indirectly as they share. [02:06:00] And then, that just pays off, because they want to be CPC members because it's valuable to them.

Another thing that we always said inside of headquarters is, "When someone wants to give us money, we want to make it as easy as possible for them to give us money." So we want someone to walk in on Monday morning, look at their to-do list, and say, "You know what? I'm going to do SWE first, because it's going to be easy, and I'm just going to be able to—they're going to have the answers, and they're going to get right back to me, and I'll be able to check it off my to-do list." And it doesn't fall down my to-do list, because we're going to be the easiest organization to deal with. And so a big part of, I think, making the CPC successful is basic customer service and recognizing how critical our Society's success is, and having good relationships with these companies. [02:07:00] And to give them just grade A customer service, be it when they walk into the conference, or when they have a question about corporate membership, or whatever it is, that we make it easy for them.

TEE: Okay. Okay. You had said that you saw public policy as one of the—SWE's embracing of public policy—

BS: Yeah.

TEE: —as one of your major accomplishments. What other major accomplishments do you feel you made during your time as executive director?

BS: I'd just say the growth in the Society, in a lot of different ways. And not to say—you know, there's always things you can improve and always things you can get better. [02:08:00] But I feel like so many things have grown, and grown on a nice ramp. So no one piece of SWE has grown at the expense of others, or in spite of others. So I think we do a lot more impactful outreach. I think we definitely have virtual training. Our professional development—I think our professional development's world class. We tackle topics that no one else does, or that few others do. You can go out and maybe find pieces of this. [02:09:00] But as a member, you can go in one place and just have this extremely rich set of professional development classes, webinars, resources—even as we start to move into things like ebooks and *Work & Life Integration Playbook*—to have all these resources as a member.

I'd say that growth is big. The conference—but even not just the conference, but all the regional activities. We were about fifteen thousand when I started. We were, I think, like twenty-seven thousand as I walked out the door. And that growth is professional and collegiate. Definitely we continue to have struggling sections and that, but in a lot of places we're strong. [02:10:00] I'm particularly excited about employer-sponsored dues. Now, sections that were kind of struggling—because they're in kind of more remote locations, they're not in the biggest cities and that—now all of a sudden have new vitality, because not only do they have new members, but they have a new partner in the employer that's there.

So all of this starts to make this nice ramp. We have more members, they get more professional development, they do more outreach activities, they get more support, and then there's more students. You know, this nice cycle just keeps growing. And with the exception of a little dip when the [2008] recession hit, I think we've done real well. I said to the board as it was obviously coming into recession, that as those things end, when all is said and done, there's victims and there's those who look like geniuses because they took advantage of the situation. [02:11:00] Change, any kind of change, is an opportunity if you look at it the right way. Sometimes it's a very painful opportunity, but it's still an opportunity. And we need to be in the category of those who looked like geniuses because they took advantage of the recession, as opposed to got scared and buried their money so that it wouldn't get stolen, as opposed to being out there and be in the fray and take advantage of what opportunities are there. So I think we've—you know, you look at anything about SWE, pretty much, and you can see where the recession was, as a dip. But it was more shallow than it potentially could have been and we've recovered very quickly. [02:12:00] Yeah, so I'd say a lot of that is just all of that put together.

And I suppose the last thing—which isn't outwardly obvious directly, but I think it's indirectly outwardly obviously, and it's pretty much the underpinnings of all the rest of it—is just hire the right people. I'm one person. I once heard A people hire A people, and B people hire C people. So I'm like, "Okay, I want to be an A person. So I'm going to hire people that are better than me, much better than me

in what they're doing, and let them do their thing." And I'm really proud of you and the whole team we have at SWE. My job is to find the right people and create the culture that they can be successful. [02:13:00] And it's really rewarding to walk into a conference, not have to do anything, and watch it just be amazing because I hired the right people.

When we were at the convention in Boston, I had this bee in my bonnet that I wanted to do a—I forget what we called it, but it was a bigger session on corporate social responsibility. And we had Polaroid—it kind of shows the date—we had Polaroid as one of the companies that was there. I forget who the second was. One of the bigger companies was the second one. And then I had a place called Harbor Sweets. And the CEO of Harbor Sweets at the time was a guy named Ben Strohecker, amazing guy.

So Harbor Sweets makes the most delicious chocolates you've ever had. They are just amazing. [02:14:00] And when I was at Cadre, we actually, as a trade show giveaway, had logo chocolates made by Harbor Sweets. So and I was doing a lot of support of the trade shows. So one day, the trade show manager and myself—talk about a junket—we went up to visit Harbor Sweets. And it's a small chocolate company in Salem, Massachusetts. And we got a tour from Ben Strohecker—and we were a reasonable amount of business for them—and met with him. So we'd get their catalogs, and there's this picture of this white-haired gentleman with the story of how his grandfather invented the chocolate Easter bunny in Hersey, Pennsylvania. And it's just such a quaint story, which is true.

But it left out the part that he was VP of marketing for Keebler Foods. (laughs) And he was a corporate giant who created this company after he left Keebler.

He's been a real inspiration to me. He had some amazing things that he did. [02:15:00] And walking through his factory was so inspirational. Candy-making is a very seasonal job, it turns out, because between what holidays are, and you can't ship chocolate easily in hot weather. That basically, on July 1, the entire place gets laid off. You get hired back based on two things: how many jobs you can do—because the first guy in has to do everything from sweep the floor to run the company—and whether you want to come back. So everyone from him on down is laid off, and they start coming back in. Well, first of all, it inspires people to learn other jobs, get cross-trained. But it also gets a lot of working moms who say, "Well, you're slow in the summer, my kids are off from school. I'm not going to come back until September." And it's like, "Okay, that's cool." [02:16:00]

His wife, actually, was in charge of refugee resettlement in Massachusetts in the Dukakis administration. And he was just doing a lot of things in terms of creating opportunities for people who, because of language skills or whatever, would not necessarily be able to work, easily find work. But the thing that most struck me—he also was great, because everybody should go in. He just handed out chocolate. (laughs) But he also talked about in the late eighties, he—late eighties or early nineties—he took a year off to work in AIDS awareness in business. So if you put it in context of the time, it's like Ebola is now, right. [02:17:00] Everybody's freaked out about AIDS. And he basically said, "I'm leaving for a

year." And he said his staff went, "You can't go. What are we going to do?" He goes, "Hey, I've been training you guys. I've been giving you opportunities. You know how to run this place. I'm out of here. See ya, I'll be back in a year." And he did.

And that always stuck with me. First of all, it was so much respect for him taking a stand on AIDS back then. But also, you know what? If I'm doing my job right as the CEO, then everybody else should be able to move up. And that's why he's sort of been my inspiration all these years. He has since retired. The person who is now the president, she's got her MBA and everything, but she started working for him in college, making candy. [02:18:00] And she's worked her way up the organization to be CEO.

And so that's a lot of my inspiration is, at SWE if I'm doing my job, then people are able to run the organization. If I'm doing my job, there's a culture that everybody supports each other. And that's why I get, I think because we're so lean—and I guess if there's anything I could have changed, that we were a little better funded for staffing, because A, I think it's risky for SWE. You know, when Karen Horting got sick I was—probably the most scared I ever was, was when Karen Horting got sick. Partly scared for Karen, but I was also scared of, How do we survive if we're just too lean? [02:19:00] I was—there were balls dropped all over the place, and obviously it didn't have long-term impact. But it's like we've got me and a lot of staff putting in a lot of hours trying to keep this thing going, and we're still dropping balls.

So, with that said, I'd say as an organization, because we're so lean and because we have so many diverse products, in a lot of ways people work—we're kind of siloed. But every time we come together, I just see everybody trying to figure out how what they do can support what somebody else does, how two plus two makes five. And I think of things like just sitting in the staff—being at the staff office a few years ago at the conference, and Lester [McNair] walking in saying, "I'm all done with my stuff, anyone need help?" [02:20:00] I see Jeanne Elipani and John Goodrich and Karen saying, "Oh, you know what? I talked to this person. I think it's a lead for you." And so it's creating that culture that you and Anne [Perusek] work together like hand in glove. And now, I mean, you and Anne worked together so much that you're part of Anne's team. But even before that, for people to turn around and say—or you working with Kelly [Janowski], that marketing says, "Oh, let me get content over here." Of course, Randy Freedman will work with anyone who will stay still long enough to listen to him, just having so much passion about outreach and trying to get that into everybody's mindset. So I'd say a big part, the lasting legacy—all these other things, I've left SWE are part of a transition. [02:21:00] You know, and they'll morph and change and everything. But the lasting legacy is creating the staff that's the foundation for the SWE of the future.

TEE: Mm-hmm. Okay. Certainly you couldn't have implemented everything that you wanted to.

BS: Mm-hmm. (laughs)

TEE: Is there anything that you wish you were able to do during your time that, for whatever reason, was unable to come to fruition?

BS: I'd say international [membership]. International is probably the biggest. I think we could have been further in international today if we were staffed more robustly. [02:22:00] You know, when the recession hit was also as we were moving from Bostrom. So it was sort of a double-whammy. And the original plan of transitioning from Bostrom gave it—we were supposed to have a bigger staff, which got cut back to be conservative with expenses. And it's very easy with hindsight to say we should have taken more risk. But going back to the time, and everything was so scary, I don't say we made the wrong decision. We did not make the wrong decision with foresight. I think we made the wrong decision with hindsight, but we didn't have hindsight. I think if we had maybe staffed a little more robustly back then, we could be further along in international. [02:23:00]

International's a hard one, because you've got to jump in the deep end, and you probably have to gulp a little bit of water before you learn to swim down there. And I think just now we're getting to a point that we're staffed to do it. I feel like from a membership side—maybe not necessarily a full leadership side, but from pockets of membership. I think the memberships ahead of us. The Ancas [Anca Eisele] of the world have had those visions for a long time. And only now, I think, we're getting staffed to the point that we actually can start to be in the deep end. [02:24:00] So in the course of saying, "Is it time to leave—." You know, a lot of factors came in to say, "Is it time to leave?" And one of the things that was

making it a little hard to leave is, I would have liked to have taken that further. That would have been exciting.

I'm not sure—I guess the other thing, which is more of an idea at this point, but I think it's a real opportunity, is I think we could get a little bit more into research. I think when you look at AWIS [Association for Women in Science] as a model, and some of what they've done, I don't think it's a big investment for us to do more. You want to look at the success of something like a *Work & Life Integration Playbook*, which is a single point example, and definitely could go much deeper than it did, much more rigorous than it did. [02:25:00] But you see the demand for something like that. So I think if we were able to bring in somebody that comes from a more formal research perspective and interacts more with research, I think we could do more there. You know, a ton of success around the survey. But it's one. I ran into Romila Singh from University of Wisconsin Milwaukee as she was heading out. And she is just so effusive about the relationship with SWE and how grateful she is. And I tell her, "We're so grateful because you actually have the research." So if we had a real researcher, too, it wouldn't just be about us doing unique research. It would also be about us coupling with more of the Romila Singhs of the world, and really taking that research out there. [02:26:00]

I think a lot of the landscape is very siloed, too. One of the things I really feel is that there is a huge repository of information that sits in social science journals, researchers' presentations, that's written for other social scientists and gets little implementation, because the practitioners don't speak social science. So you see

AAUW [American Association of University Women] writes something like, *Why So Few?* I sort of joke that I should be on commission for *Why So Few* and *Stemming The Tide*, because even though they're free I think I'd still make money on a commission, because I just so much give those out. [02:27:00] Because what's so cool about them is that they're written for the practitioner. Barbara Bogue's work. You know, all of what Barbara Bogue has done in ARP's—what is it? I have to think about what it stands for—Applying Research to Practice. To turn around and say, "Okay, here's seven papers on mentorship. What do they mean to a practitioner? They mean, do these four things in these situations. And trust that the methodology was rigorous and the research was good. Just do these things."

And so I think if SWE had a researcher, it wouldn't just be about taking our, creating our own research, but also bringing more of the research that exists to life. And I think that could be huge in advancing our mission. [02:28:00] I know Anne has done some of those things with the magazine, in terms of the lit review. The lit review isn't just a bibliography. The lit review is, What does this mean? So yeah, if you're a researcher the lit review is this great resource. But if you're a practitioner, you say, "Okay, there's all of this. Here are the common themes. I can take those common themes and go for it." So we're in a journey, but I sure wish we were a lot further in that journey, and I think that would be a real mission advancer. And likewise, I think it would, as an organization, be a real boost to the business.

One thing for me, coming from the for-profit space, I come from a—you know, go out and win all customers, charge full speed ahead. [02:29:00] And in the not-for-profit world, there's a whole other piece with the mission. So I think there's always a part that says, If you lead with the mission, the rest of it's going to follow. If you advance the mission, more people are going to join. If you advance the mission, more organizations are going to give you money. If you advance the mission, you get more respect. And I think that it's not just about stealing members or whatever. It's really about advancing the mission. And I think that some of the stuff that Karla Tankersley has done with—she kind of intuitively knew that the *Work & Life Integration Playbook* is something that would get people excited. And if we take that model and just do more of it, I think we'd have a real opportunity. So those are probably the two things that if I could wave a magic wand and throw into my tenure, that I probably would. [02:30:00]

You know, I think a lot of others are evolutions. I think things I would like to see for SWE—I'd like to see us make our governance less cumbersome, and let our leaders focus more on working on the strategic and less the details. I think associations of the future don't have a membership model like we know it today. And I think we need to be more inclusive of who we gather into our fold, and not get so hung up on the word "member," or potentially not get so hung up on nuances of [academic] degrees. [02:31:00] I, even in recent years, would hear stories. You'd go visit somebody and, "Well, I was working on my degree, and I

was a technician, I wasn't welcomed at the SWE event." Now, maybe it happened a long time ago, but we have a legacy of being exclusionary.

When I got my master of software engineering degree, I was one of two women in the first graduating—the first two women to graduate with that degree from my institute. I mean, we were small, so it wasn't that big a deal. But the first few classes had no women. And I got one to join SWE, and she was told she was an associate member, because her degree was software engineering, and it wasn't considered real engineering. At which point she never did anything with SWE.

Then you see the Anita Borg Institute have huge conferences. Why? Because twenty years ago, we told a lot of women they weren't real engineers, because they were in computing. [02:32:00] And that stigma stays. So I think as we change, as associations change models, we need to be more inclusive so that if you're somebody that fits in with what our mission is, you're part of us. And we're not going to worry about making you prove that you're the equivalent of a BS in engineering.

TEE: Mm-hmm. Okay. What challenges do you think SWE faces in the future?

BS: I'd say the big one is this redefinition of what an association is. I think every association does—one thing that's been extremely valuable to me, probably over the last I'd say eight years of my tenure at SWE, is the Council of Engineering and Scientific Society Executives, CESSE. [02:33:00] CESSE is an amazing resource to meet other engineering of scientific society CEOs, and talk to them

about what's going on. And it really creates a place where you can talk about, What are the future issues? And throughout this whole discussion we keep talking about the context of the time. You know, what was happening at the time. Well, as opposed to when I was SWE Boston president, and just this cumbersome transfer of information from headquarters and you had to physically get together to do anything. Now how many LinkedIn groups are there? Facebook? I could do a meetup with a bunch of other people.

I don't need to pay $100 a year to find another woman engineer. So why do we exist as an association? [02:34:00] Our mission's going to stay our mission. But our business structure, I think, is going to be very different ten years from now than it is today. What does that look like? I don't know if anyone can describe that. So the challenge isn't just, We have to get from Point A to Point B. The challenge is, we don't know what Point B looks like. So we have to just start going down paths and adjusting to outside pressures. In last year's environmental scan I had a big slide that said, was quoting someone—which I can't remember who he was, which is bad, because I want to give an attribution for this quote. But it's like, Be the go-to resource. How are we the go-to resource for advancing women in engineering? [02:35:00] And what does that structure look like? And I think we need to be really flexible to say, What is a member in the sense we know it now? What is a member in the sense of a stakeholder that's involved? And I think it's going to be a really tough transition, because I think as a culture SWE is very conservative. We're risk-averse. I think we're very

hooked in our traditions and how our governance structures are. And if we're not flexible, we're not going to be able to become what we need to be.

I feel I'm very good with dealing with ambiguity. [02:36:00] I think SWE is not very good at dealing with ambiguity. So I think the scariest thing is doing that meandering, because I can't give you a path that has what the next ten years are going to look like. I feel like SWE has really advanced. We've had points in SWE where we've had very detailed objectives going out a couple of years, and things change too fast in many areas to be able to do that. Now, you could do nice strategic budgeting and all that, but you can't get down to detailed objectives because stuff just happens so fast. You know, a few years ago, we couldn't even begin to talk about what a social media strategy would be for us, yet it's every day for us today.

So I think looking forward to SWE would be to have the leadership—which needs to be elected leadership, not just staff leadership—really working that ambiguity and defining us. [02:37:00] Going back to—you know, ten years from now they're going to look back and say, "Boy, there's organizations that didn't survive at all because they were rigid, and there are organizations that are in amazing places because they took advantage of all the opportunities that change is presenting them." And for SWE to be one of those, that is something that is very different but so much more impactful, because the leaders said, "Let's take advantage of this change, and let's just jump in the deep end and gulp some water and become something better."

TEE: Okay. One last question for you. [02:38:00]

BS: Okay.

TEE: The percentage of women receiving engineering degrees has hovered around 20, 21 percent for a while now.

BS: Yeah.

TEE: And the percentage of women in engineering careers has hovered around 11 percent for quite a while now, without too much—and signs have changed, perhaps, in bachelor's degrees. It seems like that's more hopeful. But how do you, how does SWE, how do SWE's partners solve that problem? How can they get past that plateau?

BS: Mm-hmm. You know, for many years, when people asked, What did I want out of working for SWE, I'd say, "I want my tombstone to say, 'She moved the needle.'" [02:39:00] And the needle really hasn't moved. And in actuality, if you look at the degrees more recently, the percentage of women has dropped. But if you look at the absolute numbers, the absolute numbers of women are just nudging up year after year. In tiny dips, but they're—shoot, I can't even think of what the mathematical term is, but the rate there is—the slope—the slope is kind of constant. Kind of slowly going up. What's happened is, the number of men has pretty much increased. So the numerator's staying the same, but the denominator's getting bigger, so the percentage has gone down a bit.

One of the things I've said with SWE is to sort of recognize where we fit in the broader landscape and the scale problem, the scale issue of our size versus some of the problems that are there. [02:40:00] So the example I use is for something like Title IX. We are the solo singer in a big performance. We, AWIS, AAUW, a few organizations stand up and take the lead there. And that's a place where we, as a single organization or an organization with just a couple of close partners, can make a difference. Outreach—we're a voice in the choir. And we're an important voice, but it's a pretty big choir. And, what is it, a million and a half girls graduate from high school each year? We have twenty-seven thousand members. There's how many schools in this country—never mind worldwide? [02:41:00] We can be pulling buckets of water out of the ocean, and the ocean's not going to go down. So that's not something we can uniquely tackle. I think that's why policy is important, because the people who can uniquely tackle it are policymakers.

Changing the culture in SWE—that we've gone from, We can't do anything in public policy to, We have a responsibility to do something public policy. And that our members feel comfortable going to the local school boards, getting involved in ways that can impact K through 12 education, is a way we can make a difference. But in reality, I think it takes a movement that's stronger than SWE alone. I feel like as a country we're starting to feel that. [02:42:00] As you watch these great ExxonMobil commercials, and multiple people have said, "They say, 'I am an engineer.' They don't say, 'I am a scientist.' They say, 'I am an

engineer.'" And they're everywhere. They're just great commercials. But I think the difference is, with the recession, all of a sudden parents are saying, "Well, maybe you don't want to go to Wall Street. Maybe you don't want some of these other careers. You know who kept working through this whole thing and makes a decent salary is the engineer. Go do that."

And I'm on the alumni board at Michigan State. And I won't remember the exact numbers, but Michigan State has had its largest freshman class ever. [02:43:00] Michigan State is a few hundred shy of fifty thousand students there. Largest freshman class ever, and this huge percentage are engineering and business. Seventeen colleges, but engineering and business are just dominating. Michigan State wants to grow twelve hundred more engineering students. I mean, just this really dramatic growth. So I say, first of all, as a profession, I think the U.S. public is starting to realize that this is a good profession. Now, we've got a whole other set of problems, which is getting any kid—never mind girls, but any kid—just getting enough math and science that they're prepared to do this.

I'd say that what I feel has changed since I started is, when I started a lot more of the argument was about, Why diversity? You know, to be on a moral imperative. Okay, you don't want to discriminate. [02:44:00] Well, we've gone—what the argument was when I started was, This isn't just about not discriminating. This is about innovation. Diversity drives innovation. You get better ideas when you have a diverse team. Identity diversity does not necessarily equal cognitive diversity. So we may look entirely different, but if we all think the same way—if

we're all white men in high heels, effectively—then you're not getting that different thinking. So how do you create an inclusive environment, that people can be authentic, that they can bring in?

So I think the argument of, We as corporations, we as academic institutions want diversity is accepted, largely. And the discussion has changed to how we get there. [02:45:00] And that's a much better place to be, because now if you're saying—you know, our new dean at Michigan State is just started. What do we do? How do we—let's try this. Let's go there. Any program—let's not just measure its success. What's its success for women? What's its success for students of color? The corporations—what do we need to do to retain?

You're at a CPC meeting—and now, this was just after I left, we have those Arup diversity cards. Karen was saying it was like the CPC members were trying to hide them in their pockets, so that—you know, a fire alarm went off and people were like, Oh, this is our chance to steal the cards when Karen doesn't see us. (laughs) You know, I think that the shift is going more to, Tell us how to do it, as opposed to, Convince us why we should do it. [02:46:00] And that's—I'm hoping I'm not seeing what I want to see. And I'm cognizant that that could be the case. But I really feel this—when I left SWE, and even a little bit of the consulting I've done since I've been at SWE, the discussion has really shifted to how we do it, not why we do it. And I think that's a big part of it.

And that the fact that the numbers haven't moved can be very much a function of it's a very long pipeline. And it takes a long time to start to move. You still see

things that are scary, but in general people in leadership want to know what SWE knows. [02:47:00] And that's an easier problem to solve, to say—and not to minimize how hard this is to create an inclusive environment. But definitely it's easier to say, to work with, How do you start to move toward that environment, as opposed to why you want it, or to understand that you don't have an inclusive environment, you have an exclusionary environment. So I'm optimistic for the future. I don't think it's going to be fast, but I think—let's reconnect in ten years and see if I'm right. But I do feel that the whole environment is different now, and hopefully it will keep going that way.

TEE: Okay. Is there anything else that you would like to add before we wrap up this interview? [02:48:00]

BS: (with emotion) I guess—I don't think I can say it without crying. It's been the most magnificent thing that's ever happened to me. It was very hard to leave SWE, because it wasn't what I did—it was who I was. It's been a real honor to represent the Society. Been among the most amazing staff team, some of the most amazing women in leadership and membership that I'd ever want to work with. [02:49:00] And I think if there's—I've been so honored to work with major corporations who really put their faith, their reputation, and their dollars on the line with us. And I think if there's anything I want to see, it's just when your successor twenty years from now looks back and says, "Wow, Betty Shanahan left a great platform. Look at how much further SWE could go from there." And that's—I've loved every minute. I've loved almost every minute. (laughs) There

have been a few that I haven't, but I've loved every minute. I've been so, so honored to serve with amazing staff and amazing leaders.

TEE: All right.

BS: So I wasn't going to cry, but I cried anyway. (laughs) [02:50:00]

TEE: Well, thank you very much for taking the time to do this interview. I'm sure that in the history books, it will go down as a turning point for SWE, your tenure. So with that, we will end this interview.

BS: Okay.

TEE: Thank you very much.

END OF INTERVIEW