PROFILES OF SWE PIONEERS

ORAL HISTORY PROJECT

Anna Kazanjian Longobardo Interview

May 22, 2003

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Anna Kazanjian Longobardo

Anna Kazanjian Longobardo received a degree in mechanical engineering from Columbia University in 1949 (the first woman to do so) and a master's degree in 1952. She entered the new area of analog and digital computer applications and has since made major contributions to the aerospace engineering field. She worked as a systems engineer for American Bosch Arma Corporation for 15 years, where she designed and developed a submarine-towed buoy used to calibrate sonar. She joined Sperry Rand Corp. (later Unisys Corp.), in 1965, and retired from Unisys in 1995 as a senior executive of its defense unit, supporting military systems and weather radar systems. Longobardo was appointed to the New York State Women's Council in 1963, served as Director of the Technical Societies Council of New York from 1966 to 1970, and has been an active member of the American Society of Mechanical Engineers, the Joint Engineering Management Committee, the American Institute of Aeronautics and Astronautics, and the Society of Women Engineers, of which she is a Fellow and one of its original charter student members.

In her 2003 Profiles of SWE Pioneers Oral History Project interview, Longobardo discusses her education at Columbia University; her early career experiences working for American Bosch Arma; her variety of professional experiences at Sperry Rand Corporation; her experiences serving on corporate boards and boards at Columbia University; and her involvement in SWE.

- July 2016

INTERVIEW WITH ANNA LONGOBARDO, MAY 22, 2003

LK: It's Thursday, May 22nd, 2003. This is an interview with Anna Kazanjian Longobardo for the Society of Women Engineers Oral History Project. The interviewer is Lauren Kata. And I'd first like to start by thanking you for participating in this project.

AL: You're very welcome.

LK: Can you begin by talking about your family background and your early childhood?

AL: I'd be happy to do that. I was one of two daughters. And my parents and grandparents and uncles, et cetera, the group around us all felt that women should be highly regarded, performing in academic and professional capabilities, so we heard that from the time that we were very little. And so it was a wonderful way to be thinking about yourself and how you might contribute.

And they were immigrants, and from a professional middle-class family. And in other ways, except for that feeling -- and I think other families have had that kind of upbringing for their daughters; I was very traditional. I was taught to sew and embroider and all those things. I didn't take engines apart or anything. It was not that kind of a -- it was just encouraging us

in our academic performance and making us feel good about ourselves.

And it certainly was important to me. I was the second, and I was pretty accomplished as a little kid, you know, like first in my class always, and so on. And they made -- especially my grandparents (Laughs) made me feel that I was the most wonderful person, and that I would be a star, and that I could do no wrong. Laughs) And my parents didn't even like that I was beginning to feel that way. But I'll tell you, it has been terrific for me.

And even I made people laugh just recently at a meeting where someone was kind of teasing me about something I was saying. And I said to them just that, that it didn't matter how he felt because -- it was the Engineering Council of Columbia -- I said, "Because I was told that I was really wonderful." And I said, "Nothing that you tell me would make me feel otherwise." And do you know that I was, again, the only woman, but everybody applauded me? (Laughs) But it is that. And I think it's so important. I try to do it with my own children and my grandchildren, is to make them feel that they're capable -- within their capability that they should try hard, because the world is their oyster. And I think that made a big difference.

LK: What about teachers, did you--

AL: Well, I was -- certainly in grade school, and so on,

because I was quite capable, people would encourage me. And they never -- I honestly don't remember any differentiation, even all those years ago. And someone approached me recently at a Columbia [University] thing. He and I would vie for first place in grade school. And we talked about a teacher that we had. And I said, "She gave me a poetry book when I was twelve, *Golden Treasury*." And I found it because I wanted to e-mail back, because he remembered her too. He went on to Yale, in history. (Laughs) And we chatted about those years and what it was like. And she wrote "To Anna Kazanjian, for general excellence." And I remembered I was so -- and this was sort of outside of the class. And he'd gotten it; we'd both gotten it. And there wasn't -- you know, it just was a very assumed that women -- and for those times -- that women -- I never was made to feel that I had to be a secretary or a nurse or anything, or just be -- I don't know mean just a housewife, what a bad thing to say (Laughs) because I cherish my housewife parts of my life -- but I really was never -- I never had a sense that I couldn't be whatever I wanted to be. And that was certainly in the family, too.

And the only other thing is: I had a bachelor uncle that was an engineer, and then an engineering professor. And he particularly was hard over on thinking women needed to perform and do well, and so on. And I was pretty good in math and science as

I was going on, let's say, into high school. And certainly he encouraged me. I don't really remember that he would say engineering particularly, but he encouraged -- I think I was encouraged by engineering.

And I don't know whether you want me to go on to why I became -- you talked about teachers -- I did decide then, early on, maybe in my second year in high school that I would be an engineer. I didn't see why I couldn't be an engineer, because I talked to my male classmates, and they were doing well in math and science and, they were going to be engineers. And I never thought twice -- well, I don't know why I can't be. I was raised as a Christian Scientist. I like biology. And I could see that I might have been a doctor, but it was not -- in those years in particular, I didn't see it as something I would do.

And I was starting to go out, and I had a really nice cute boyfriend. And he was in my math class, except I did much, much better than he. And not only I in that -- as we got toward graduation, all the women were doing better, because you know, girls do wonderfully well -- young women do wonderfully well in high school. I don't know, as you grow there's this thing where we do better in early ages, and then we stop talking as much. I think that's changing very much.

But anyhow, there was an award at high school for the best

math student, only you had to be male. And I was the best math student, so I couldn't get it. But not only I, someone very close to me, she was a tenth of a point behind me. They had to go down fourteen women's names. I wish I could remember the prize. And they did it -- and I have it down -- until they got to my boyfriend, Bob Fleming. And he was mortified. He didn't want to even take it, because at least if it'd been the second or third, let's say if there were two of us. But that's -- there were still many restrictions like that. That would really -- I thought that was -- I was really appalled. That was one of those -- to think that they had to go down fourteen young women who couldn't get their -- and they had to get someone who was fifteenth. And so there were things like that. But as to the attitudes of our own teachers and professors, it was the opposite. They were very, very helpful.

And so I decided to be an engineer -- so to go back -- maybe in my sophomore year or junior year. And my guidance counselor called me in and said -- I had really good grades. There were 850 in the class, and I was salutatorian, a tenth of a point behind valedictorian. And I was really -- in those days I was very smart -- it seemed to me, or so I thought. But I was very well accomplished. And I guess she didn't know whether or not my family -- what their means were or whether they were professional,

whether they would be helpful. So she said what did I think I would do. And I said, "I thought I'd be an engineer." She said, "Well, why don't you apply for MIT [Massachusetts Institute of Technology]?" And I said, "Well, yeah, okay. If you think so." But I think she was really trying to find out if my family would even encourage me to college, and so -- which it was just the opposite, of course they did. But she was very, very -- Miss Curtain.

And so I applied for MIT, and I got a scholarship. And I went up to Boston. And I remember getting interviewed down at Wall Street. It was an executive of Mobile who had been at MIT. And he was really this old-time, very old shoe kind of a guy. And I was this little (Laughs) young woman -- girl. That's what I was. And so I went up, and there was not even a dormitory for women then. And so I would have had to live in the "Y," and whatever.

And I talked about my very comfortable encouraging kind of a background. But on the other hand, it also was -- in those regards it was traditional. They didn't say I couldn't do it, but I think they were -- I believe they would have been uncomfortable too, and so I felt that I was not comfortable.

And I was going out with this Bob Fleming who got (Laughs) that award. And I lived very close to the Columbia campus in a

very comfortable, wonderful kind of household. I wasn't quite ready at sixteen and a half or something. So I got the New York State Scholarship, which I would have not been able to use at MIT. It wasn't a lot of money in those days, anyhow.

But I used that as I thought -- well, I even got more encouraged to go to Columbia. And I got admitted at Columbia -- Barnard College. It was Barnard Columbia Joint Engineering Program. It was four of us, and it was the beginning -- it was the first for the University. And so I turned MIT down, though it was a four-year scholarship. But you know, it was important to me in that it was made a big fuss about in my high school that I... I guess I always liked a little bit of being in the limelight (Laughs), and I had gotten it. So I was proud of getting it. But I really was a little bit of afraid of going.

And there's someone before us in SWE, who has passed away, Martha Munzer, who was in electrochemistry, and she had gone in those -- way before, because she was a lot older. So she must have really done some breakthroughs. And I don't know what her living arrangements were, whether she came from Boston or whatever. But there were some few women at MIT.

But anyhow, I did the Barnard Columbia thing where you took mostly the Barnard liberal arts courses. And the fellows doing it did it at Columbia College in liberal arts. And you started

taking some engineering courses. And there were four women. And two dropped out that didn't like it at all.

I wasn't really loving it at that point already, in the sense that I was feeling unsure. I was doing very well in my Barnard courses. I was getting a little edgy because I always wanted to be first in my class. And here suddenly everybody even at Barnard -- everybody was first in their class (Laughs) from their high schools. What a shock! But anyhow -- but I was determined. You know, I'd been this thing -- now everybody in my family was so proud, I was going to be the first -- and I was the first woman in mechanical engineering at Columbia. And Gloria Reinish was the first woman before me. But she didn't go through Barnard. She went from some other school, and it wasn't this Columbia University program.

And so early on I began to sense that I was still doing wonderfully well in math and physics, but I wasn't loving it as much. And that's why I'd like to talk about this when I go into my career. But I didn't -- I was okay. I was like a "B" student in engineering school. When, interestingly, I finished, and started working at American Bosch Arma and got my masters, I didn't -- I don't know whether I grew up around my -- I mean, I'd been so used to academic proficiency that it was sort of startling to me that I wasn't being first, and that I had one class that I

had a "non-pass," and I had to go -- Strength of Materials -- which I ended up doing very well in. I talked to the professor, and he said, "We're not really supposed to let you take the test over, but I will." (Laughs)

And later he said -- because I worked and worked at it, frankly, and I did -- got a perfect score. And he told me later that he was glad that I spoke to him -- Professor Krefeldal (phonetic). He was more than generous; he was saying something to me. (Sighs) It's making me feel bad. But anyhow, he -- so there were those kinds of things. They were not -- you know, I wasn't being mentored, but there were people that recognized something and were encouraging. And I don't know whether other women have said this, but...

So even though when I started mechanical engineering courses I had very long hair, like yours -- longer -- and they said, "Well, you're going to have to tie it up, it'll get caught in the machines. And you can't wear rings. And you have to wear pants." Nobody wore pants. And there are no bathrooms for women. You know, you'd have to go all the way to the first floor.

But even that -- I remember that professor; he was head of the department. And he wasn't trying to discourage me. He was being a little tough with me. I don't know how to explain it. But he wasn't unkind or -- maybe he was just seeing how serious I

was. I don't know what to think about it. Because later when I married my classmate I remembered that he sent a -- he couldn't be there, and we were often invited to their homes and everything -- he sent a congratulatory telegram making reference to that, like "We always knew you had it in you," kind of comment. So there were those kinds of help.

So anyhow, I didn't know what kind of engineering. And someone said, "Well, if you're a mechanical engineer you can do a lot of different things. You can go into process engineering or manufacturing, even in the chemical industry, and you can design." And that seemed okay. But I was not focused as an engineer. It's more like I was determined to be one. (Laughs) And you've heard this, I'm sure, from others, in those years -- they're not saying this anymore nor is it the case -- but when you went in with the entering class, they'd say, "Look to the right or left of you. Only one of you is going to finish."

And men were not finishing, and going off. This Bob Fleming I was talking about went to law school, someone I'm very close to at Columbia now, always teases when I say, "We seem to" -- "The engineers, if they get involved, run all the organizations, because we're the ones" -- that I told you -- "we want to get the answer, the bottom of the line, we don't fool around." And he said, "Well, you can count me as one except I flunked out of

engineering." (Laughs) He's in brilliant lawyer.

But so people were dropping out anyhow. And it was almost like I was having some difficulty, but I was very determined not to do that. And then when I started working and took two courses a night -- because the masters program in engineering is more than a regular masters program in points, I got "A's" and "A-pluses." And it was like I felt really good that I'd found myself. And I got this special citation. There were three given in different departments. But I got one for Outstanding Achievement in Graduate Study. So I really graduated the top of my class. But here I'd been sort of -- I had felt unsure. So that made me feel better. And once I started working -- I did -- well, I think it was the combination of working and only taking two instead of six courses, and I could focus, whatever it was. And then I did well at work. But I did well -- well maybe that's your next question. (Laughs)

LK: Well, my next question, actually, was going to be -- well, two questions: Why did you decide to go on for your masters, and then, what was it like when you were looking for your first job once you received it?

AL: Okay. I have wonderful things to say about my first job. So let me do that before the masters. Before I even graduated, at that time, the New York Times had male and female

"Help Wanted." And someone in my -- and it was not -- in '49 and '50 and '51 there were not many engineering jobs. So nobody was really -- now they've got -- though it's a little bit like that, not everybody's getting jobs yet this year, I hear, when I talk to the engineering dean. But people were looking around, and not many people had jobs.

And there was an ad for "Help Wanted, Male" for a manufacturing and production engineer in a small company in Long Island City. And Richard Meyers, a colleague of mine went and applied. And they said, "Well, we don't want a male. We want a female." But the zealous clerk at the New York Times had said, "engineer," and put it under "Help Wanted, Male."

And the reason they wanted a woman, they'd had a woman, an aeronautical engineer from I don't know which school in Boston. And she had worked in this factory and done very well. And I could see why once I got the job. And she was married and having a baby and was leaving; they were going somewhere else. So because it had been so successful, they wanted a female.

And the reason it was successful, most of the guys were old-time union help. And they'd see a woman with pad and a stopwatch doing time and motion studies, et cetera, and you know, at that age you're kind of cute. And many of them were not only my father's age, they were probably my grandfather's age, and they

didn't think we -- you know, we didn't intimidate them. And we did very -- were able to do -- I didn't know -- I just met her once before she left. But I was really able to do a lot. And she had, which is why they wanted another woman.

And so I sort of got in the back door. And I thought it was funny. And I started before I actually graduated. They gave me -- I started in May and graduation was June 1st. And they gave me the day off to go get my degree. (Laughs) So I was practically the only one working from this little mistake in the New York Times. So that was my first job.

And it was in a factory setting. And I did change processes. They had a union rate set. And every once in a while they'd see a department was making like twice what it should be making. And they'd say, "Listen …" -- and you'd see, you'd go in, this is a typical thing instead of -- maybe in those years, maybe they were making -- instead of 150 a week, they were making 300, so obviously they were cutting short something in the process. And so we would cut their salaries back, so we could have been hated, but they didn't feel that -- the workers didn't feel that way. They didn't feel intimidated by a young woman.

But I felt, "Where's all this math and science?" I'm walking around with a pad and a stopwatch and watching people. I didn't realize -- I always think maybe if I'd stayed I would have been a

famous manufacturing engineer or something. (Laughs) But I felt it was kind of a 'little bit beneath me' feeling. And I didn't understand. And I don't know that I discussed it with my family or anything. All I know is they were going into receivership -- it still exists, the company -- but anyhow -- and they were going to put me into a production control department, which was even more routine. And so I felt about it that I would go on. And I went to American Bosch Arma, which was somewhat more theoretical and scientific. But it's because I didn't really understand what engineering is. And the other was just as much engineering but not in my mind, so anyhow...

I went to get my -- so that was the end -- I started in May -- of September or so, I decided to get my masters at night. And it seemed very much the right thing to do. I mean, in other words, we were encouraged to at least get the masters if not go on to a doctorate. I mean, all students, so...

LK: And what was it like when you decided you wanted to do something else, interviewing for this next job? Was that--

AL: Well, it was a little painful. It was painful, because the other had fallen into my lap, the first job. And I went to Pratt & Whitney's Hamilton Standard Propeller Division, and they did offer me a job. And it was in -- see, I was very much still kind of a homebody in that regard. I mean, in some ways I was

courageous, but in others -- and I would have had to live in the Hartford area. And I was dating my husband, who was in my graduating class. And we were almost sort of semi-engaged, and he was going to be on the Columbia campus. So I was feeling I really didn't want that job because it was so far away, and I'd have to live there.

And I remember I had taken the train up. And I have the kind of face where if I don't smile it looks kind of like an El Greco. And so this man (Laughs) as he went by, he said to me, "Cheer up, girlie, it can't be that bad." (Laughs) I thought, "Well, gee, I really am hating going up and living in Hartford." Anyhow, I didn't. And I came back and interviewed with American Bosch Arma.

And again, I wouldn't call this a mentor, but there was a man, Richard Minor, who kind of wanted to make a splash -- I didn't mean that pun. But we were doing a lot of naval work. And he liked going onboard ships with women. I was on the team. There was a woman math professor. As I said, at that age you think everybody older than you is aged. She was twenty-nine, and I thought, "Gosh, she's twenty-nine, she's a real old maid," I thought to myself.

(Laughter)

AL: But we would -- he gave us a chance. We'd meet with admirals. I mean, we wouldn't talk, necessarily, but we'd be --

we'd do the work and then present it. So he -- but I think he liked it to get the attention, too. I mean, he probably philosophically thought women were absolutely equal, no question. But he sort of pushed us more than (Laughs) you know... So those first couple of years, he was certainly helpful.

And I think I mentioned I became a project manager in Key West with the Naval Ordinance Unit for this Toad(?) Submarine Buoy. And when you're really like -- now I'm trying to think, I was probably twenty-two, twenty-three. And I had about five or six guys, much older than I. But I thought that's -- and the work was really exciting. And I was going out to sea. And we had an office on a small -- un-air-conditioned (Laughs) space in Key West. But anyhow -- and I mentioned that I'd go out to sea. And we usually didn't stay overnight. But if there was a storm and you had to stay, the captain has two cabins, the regular cabin, and then one up by upper deck near -- and that would be my cabin, and all this stuff.

But I didn't realize that it was highly unusual until I came back -- I'd come back and meet with my Columbia colleagues. And so most had very ordinary pretty low-level jobs. And I realized that I was doing stuff that other people weren't doing at that age. And I liked it. I like that whole bit. And it was a successful project.

And I went back and forth to Key West a number of times, and came back to be married, and had missed the wedding date a few times because of -- I mean, I could see that we had to keep postponing it, but then married in 1952. And I stayed at Arma for a long time. I had both my children while I was there.

And then someone that had moved over to Sperry in a very high executive position had asked if I'd join them, and I went there. So I never really -- except for that American Bosch, I had not really looked for a job. I've been solicited, let's say.

LK: Well, while you were starting to raise your family and working, how were you able to balance, you know, your career and work?

AL: And I never did take time off. I just took a few months -- weeks. Well, the first one, I guess I took three months. And with Alicia, my daughter, I took -- I was going to take two and a half months. And then I needed some surgery. And right after the First International Engineering Meeting (Laughs) I had a great big party, and then felt really strange that night.

And my mother had come, because there were some interesting older Indian women. There were women from abroad who'd been engineers who were like my mother's and grandmother's age. They weren't necessarily practicing. But anyway, they were all invited. So I thought my mother -- it would be interested to have

my mother there. Thank goodness, because I thought it was appendicitis. It was much worse than that, and needed surgery. So I -- the good part of it was I stayed home a couple more months with the children. (Laughs)

But it was connected with SWE, because we just had this thing. We were asked to invite people to our homes. And I had run the luncheon at one of the sessions, a big, big luncheon.

LK: This was the First International Conference [of Women Engineers and Scientists]--

AL: The First International, yeah, yeah. So I only took these short periods. But I had a husband. And I thought because we were the same age and we were in engineering school together and we grew together -- because he came from a very traditional -- his mother didn't work, and so on. I don't know what he thought. He just -- we thought alike about it.

And I used to say, "Well, if I were a doctor and a surgeon, would they expect that I would stay home?" But somehow, women engineers, a lot of them did stay home. And you'll find when you interview them, a lot of them stayed home for a number of years and went back. I think that's the case with Gloria, for example.

But neither my own parents nor -- I mean, certainly first and most important, my husband didn't feel that way about me, so we didn't even have to discuss it, nor did my parents think it was

peculiar. It's interesting, because that didn't change for a very long time. Now I see a lot of women...

But in this village, for example, we could afford this, and live in an affluent village because we both had good incomes. But that wasn't -- there was a woman doctor and a woman lawyer here, but everybody else, even though they were very educated accomplished women, were all home. So it was very, you know -- it was very -- considered really unusual.

But you know, I -- and I had hoped that SWE -- that I'd see the experiences of other people. But some of the women that were married didn't have children. Some of the women weren't married. Many of them were not married. And some of the women that were engineers and married with children weren't working. So I didn't know a single (Laughs) -- I mean, I shouldn't have used SWE as sort of a crutch, as a how-to manual. But somehow I thought it would come out, and there wasn't anyone.

LK: This was in the early '60s?

AL: Well, yeah, that's when I had them. And if you think about the people you've interviewed, you know, many of them aren't married, and so on. So I thought that would be an important part. Because if we were going to progress in the profession, we really needed to get a helping hand, a bit, in instruction.

Now, at American Bosch Arma, I'd hoped that -- I thought

maybe if I could take -- work four days and have a three-day weekend. And they said, "Well, you know, you can -- any time you need, just take it." Well if someone says that to you, like if a child is sick or you know, or, you know, there's -- but if you have someone good enough to be taking care of your children Monday through Friday all day long, then if your child has the sniffles or a light fever, anything, they should be competent enough to take care of that, because you wouldn't have them taking care of them full time anyhow. So that's the way it really worked. And then when there was something -- I can think of, oh, my son was on a swing here and fell, and I got the call. It was the nurse's office. And his head was kind of hanging -- which is the way it was relayed to me. Well, Guy and I -- my husband was at IBM North, and I was out on the Island -- we both zeroed in. And it was fine, he was okay. I guess it'd been sprained.

But that's the way we thought, my husband and I. It wasn't something that he would not have wanted to be part of as well. And so if there was something like a guidance meeting, either he or I would do it, and we would switch around. We never even discussed it. It just -- and to this moment, I wish he were here and you could meet him -- to this moment, our lives are just sharing. And I think it was his attitude as well. But there wasn't much discussion about it. Maybe some of the other people

who are married with children that you've had this discussion with will say that it wasn't a point of contention or compromise or even discussion.

And it does bother me, because all these years have gone by, and there are lots of women high up in the profession and so on. But with many it's still an issue and a challenge, or a matter of taking years out while the children are... I mean, it just seems that the woman always is the one taking the years out. There are a few househusbands, even in this village. But in general, it isn't a question about who can manage it, it's that the woman assumes she has to. So it hasn't moved along very much.

LK: Well, let's talk about how you first heard about or became involved with the Society of Women Engineers. This was before you were married.

AL: Yes.

LK: Can you talk about that?

AL: Yes. Yeah, well, there was a group. There was a Mary Blake at Cooper Union, and Evelyn Fowler. Anyhow, there about five or six women around -- Cooper Union was a very strong point. And I don't know if other people have mentioned this, but I think it kind of started... But anyhow, they got in touch with Columbia to see who was registered. There was almost no one. I think I was the only that started from Columbia. And we had a group

meeting down in New York. And then we said we were interested. And then there were some women already practicing in the profession, like Beatrice Hicks, and Ruth -- oh--

LK: Shafer?

AL: Yes. Thank you. I'm terrible with names. I remember everything, including being at her apartment for dinner. I mean, I can remember all the details, but names I'm horrendous with. I never could have been a PR person, I guess.

But -- and they had this first meeting at Drexel [University] for the weekend, and we went. And Lillian Gilbreth spoke. And she was exciting and looked like a regular grandmother and a mother. She was kind of (Laughs) -- she was very interesting. She combined being just very womanly, which you have to be if you had all those children, but also absolutely, no question, a very contributing member of this whole time and motion stuff that they did. So I think Frank was really -- had started before she got involved. And she was a psychology major, as you know, when she got into it.

But it was a wonderful -- and we thought of how to organize and where we would organize. And I think the New York Section really took the lead. So I was one of those early-involved people. And then I -- though I became the head of the New York Section in '65, I guess -- '66 -- but there was a period where I

wasn't active at all with National. And I always paid my dues and everything, but I wasn't shown as a founding member and got upset about it, and corrected -- and they've corrected it in the file.

And then a few years ago they had New York Pioneers. And so I thought, oh, my, was I a pioneer? And we had this meeting at the World Trade Center, and we all got up and spoke. And Lillian Murad and I, and a few of us -- I'm trying to think if -- I guess Eleanor may have been involved then -- spoke about how we began. More or less a very concise version of what you're asking me now, what the first jobs were like, and so on.

But I did some things on national committees, but I did not take any more active role, nor seek any active role in National, just because I got very involved with Columbia, and headed up the engineering alumni, and then the whole university alumni, and then became a trustee on the Engineers Council. And I, you know, very much got -- and between my job and my family, I felt that was my first passion. So I really didn't do as much with SWE, though I'd always stayed on as a member.

LK: In the early years of SWE, first of all, why was it important to you to become involved in that organization, and in the early first couple of years?

AL: 1950s, I guess it was.

LK: The first couple of years, what activities were you

involved in with SWE that affected you?

AL: (Laughs) I don't know. Other people will answer it. I certainly felt that -- well, I mentioned to you that I thought I would find other women in my circumstances and that we could talk -- not just having children, but what it was like in the profession. And so I was really was seeking that out then. It's awful to say, I think I outgrew that and found out that I really had to do it for myself and understand it and work it...

And also, it's wrong for me to say that when I had a fair amount of success -- and the success came early, pretty early for me -- that I didn't need it anymore. But I did really become sure of myself, and I stopped really thinking of myself as a woman engineer. And that's the part that I have reservations about.

But I wanted to help other women. And that was -- I mentioned earlier, before we started taping that I'd been asked to give a talk to the New York Section. And I was sort of being watched over by someone from the New York State Government. And I had not even wanted to give the lecture. It was about my own profession, about navigation, and inertial navigation, and so on.

But I was quite pregnant and was meaning to get over to the United Engineering Center and either drive there or take the train and the whole thing. And I thought, "Oh, do I really want to do this?" And my husband said, "You know, you never know what comes

out of these things." And sure enough, I was recruited for a state government position, which was wonderful for me, because there were women in all the professions. So it ended up -- and I thought, "How wonderful of SWE." And I really stayed -- even though I'd been starting to think (Laughs) in terms of I wasn't sure how much I was going to do, and yet I did get somewhat more involved and took over the New York Section then.

And I felt that was a very -- it is a very worthy thing. And I'm not sure it's needed as much anymore, but still, I think women knowing about other women who have accomplished quite a bit is very useful. And I think that's what I'd tried to give back.

Was there anything else? I sort of -- I was a woman engineer, and there was a society, and I'd helped found it, so I stayed with it. (Laughs) I don't know. I have to say that I didn't have a strong conviction or a strong need. I didn't need it socially. And a lot of the women in the New York Section used it socially, not professionally. That almost is what drove me away from it a bit.

LK: Were you involved in other professional organizations?

AL: Yes. I was the head of the ASME [American Society of Mechanical Engineers] part of the Engineering Joint Council. And there was a wonderful -- there were some -- like Marie Reith had gotten me into that -- or I'd gotten into it and met her there.

And she was an incredibly accomplished woman. And that was through the ASME. And then the Joint Engineering, a part of ASME, I was pretty active and helped organize one of their conventions in Toronto. And I'm a senior member of Astronautics and Aeronautics. But none of those things, including -- ASME, I did more of. I was chairman of Engineers Week one year, and ran a program, and so on. But none of them -- I didn't -- I had no aspirations to rise up in any of those, as I didn't in SWE National, because I really was working very hard, still am, at Columbia, first with the Engineering School with the University. But yes, I was active in all of those.

LK: Why was that important to become active in your technical societies?

AL: Like in ASME or Columbia?

LK: In the technical societies, why was that important?

AL: You know, you're asking me things as if I should have been very thoughtful about them. But I didn't do it in a thoughtful way. It sort of just happened. I mean, I always reacted to -- (Laughs) it's awful to think that this is going to be on tape -- but if someone asked me to lead something, as I said -- and I have a niece who's just like I am. (Laughs) Like, she immediately became president of -- she's an actress -- and about professional women in the acting professions. And she sent to me

something she knew I'd get a kick out of, because it said, "President Catherine Russell." Because if I saw that -- if someone offered me a leadership role, like to run Engineers Week, I wouldn't turn it down. But if they had said that I would be down at the very bottom sending out letters, I might say, "Oh, do I really have to do that?" But I reacted to people reaching out to me if I felt it would be helpful, and especially if I could be in a leadership role. I never thought about it that way, frankly, yet it's interesting that it's -- I got your name wrong, didn't I -- its Laura--

LK: Lauren Kata.

AL: -- that I never really questioned it. But if I was -- it seemed like a meaningful thing like Engineers Week seemed important that people have recognition, and if I could help be important to it, I would like it. So it kind of happened. I don't know what other answers you get from other people, but it's not necessarily something really that you're very thoughtful about in choosing -- as you get more and more stuff, you pick and choose more. But I think in the beginning -- some people aren't joiners or don't want to get involved. I like to be parts of things. But I like to be (Laughs) near the top of them if I could.

LK: Sure. That's wonderful.

AL: Well, some people don't feel -- some people feel that if

they can contribute in some small way, that's enough.

LK: Well, let's talk about your leadership role during the First International Conference of Women Engineers and Scientists that was held here in New York in 1964. And that must have been really exciting.

AL: It was very, very exciting. And I had only -- it was one of the luncheons that I helped organize, and I gave the opening stuff in it, and then had this dinner for women from abroad. Ruth Shafer was -- I mean, really -- and there were some very -- by that time, Alva Matthews was another one. She was very -- these were older than I and very experienced in running pretty big things, and they did an incredible job.

And what I found was exciting was the international aspect. And I really -- it was an awakening for me, because -- especially from the Philippines -- we had women from South America that came with the duennas because there weren't -- here they were engineers, and they weren't allowed to travel alone. And then we had these Indian women that had studied engineering in the '30s and '40s. And I have learned more about Indian women, and that they do -- the upper-class Indians do -- women in law and medicine and engineering and all kinds -- they don't necessarily practice it, though. But the families educate them because they want them to have that, but yet they're not free to go really practice it.

I'm sure it's changed somewhat -- not a lot in India -- but it has. So I found that incredible. So that was a very great -- and it was a very successful first conference.

LK: And the SWE women, you touched on it earlier, but the way it was organized, SWE women invited small groups to their homes? Can you talk a little about that?

AL: Yes, yes. The ones from abroad, we invited -- they asked -- especially those of us who had homes. But if you had big enough space to have -- so I think I had about twenty people. But we had the international women -- or even from the non-New York women. But I just seem to remember -- because we met a Mexican couple, and she was an engineer and he was a dentist, and invited us down. We never followed up. But there were Indian and Philippines and the Caribbean, and we all had parties for them. And it was the next to the last day, I think it was a Friday night, and it was wonderful. And you know, many of us, we go abroad a lot, but I never visited any of the women in those years. But we corresponded, and sent Christmas cards, and chatted.

And also, talking about our different cultures and how it was viewed: In the case of the Philippines in the sugar industry and so on, there were women practicing and doing really well. In that case, they really did work at it. The Indian women did not, as I recall. But the Mexican -- you know, in Mexico and the

Philippines and the Caribbean, they really were working at their professions. And that was interesting to me too, because I always felt that like we were -- American women were at the head of all of this. And here there were all these older women who had been in engineering, where we had almost none in those years in the United States. It was very educational.

And we gave an honorary degree at Columbia yesterday to Constance Baker Motley, she's a judge. And she looked wonderful, but she probably was in her eighties. Because at that conference, SWE asked -- well, I reminded her of it, she came and spoke. And I think she spoke at that luncheon. I mean to dig out -- because I do have the conference -- I know she spoke at a lunch or a dinner. And I thought it was at that lunch that I organized, but I wasn't absolutely sure.

And I reminded her of it. And she said, "I spoke to engineers?" And she said, "I've given all my papers to Columbia," because she went to Columbia Law School. She's black. She had every important state job, and finally got a wonderful judgeship, and has -- one of the courts is named for her, and so on. And she spoke, and she was incredible. So I said to her, "It was forty years ago."

(laughter)

AL: So it was an exciting time. And I have to say that Ruth

Shafer probably was a very important person. And I think she even may have stopped -- she took a leave to do it, I think.

Did you hear the name Lillian Murad incidentally?

LK: Uh-huh.

AL: Is she still alive, do you know?

LK: Uh-huh.

AL: Are you going to interview her?

LK: We're working on it.

AL: Okay. Because she was very central, and she was also a president of all of SWE. And she was a very interesting woman. And I think she'd have a very interesting viewpoint, I think.

LK: Were you and she close in the New York Section of SWE?

AL: Yes, pretty. And she's of Armenian descent, and you know, that kind of ethnic thing was strong, especially in those years. And she was -- I mentioned that because she did Armenian dancing as well. And she was an interesting woman. Well, I'm glad, I'm glad she's still around. (Laughs)

LK: Good, good. Something that you mentioned earlier also triggered my brain. What was it like working in the industry in New York with the United Engineering Center here?

AL: Not a big impact. We had meetings there. And I'm part of the Engineering Foundation now, have been. I'm now a Board Emeriti member. And it was there. So a lot of things went on

there. But the United Engineering Center was not central for me. Maybe it was for the other people. If I had to do something at SWE I might go down there, and Winnie White was there, and so on, but I wasn't involved at all with it in any kind of broader sense. And of course, it's all taken apart, moved, and all those things.

LK: Right. It's just the idea of it being--

AL: Well--

LK: -- do you remember when it--

AL: No. I just knew that I started going to meetings there. And I don't even know of its importance, because I knew it at the tail end when the groups were leaving and were getting paid to take money out of the building and all of that. So I kind of knew more -- had a feeling more about its demise than whether it had an important -- I always think of-- ASME was there, all the offices were there. But you know, the question almost makes me feel as if it had a unifying important role. And if it did, I didn't realize it.

LK: Interesting.

AL: I saw it as a home for SWE, we were given space and were welcome there; that was interesting. But it would be interesting to know if it had a--

LK: Well, that's sort of my curiosity.

AL: Yeah, well, it may have been, and it passed me by. But

I wasn't –

(INTERRUPTION IN RECORDING)

LK: Okay, we're back. And so let's continue talking about your work history. You were talking about Sperry…

AL: Okay. I had a number of years at American Bosch Arma. And then I think I mentioned, it might be on the tape, that someone who was at a pretty high level went to Sperry and then asked if I'd go and be a program manager there, and a section head. And even though I had been in the management training part of American Bosch Arma, it had started not doing so wonderfully well with all the things that happened in the defense industry. They're cyclical, and it had kind of -- was in a cost-cutting mode, so things like management training had been cut out. And I really wanted to go into management. And so when he said -- even though I was a program manager, I was not officially a 'manager' manager.

And so I got sort of wooed by Sperry. I became a section head in advanced computer stuff, which is was not by background. I'm a mechanical engineer. But I was doing systems engineering, and that was -- I was going to be like a systems engineering section head. But what was -- the program was on radiation tolerant, that is, computers that will not be affected by nuclear blasts.

(Laughs)

So I stayed in that particular function for a couple of years. And then, as happens with most of us in engineering if you are pretty skilled and do pretty well in leading and managing and planning and strategizing, all those things, you kind of rise out of that, and you become -- you stop doing hands-on engineering, but you manage engineers.

And I was on a program called Traffic Accident Analysis. And he had an FHWA [Federal Highway Administration] contract. And I loved it, because it was the first kind of non-defense thing I was doing. And so we had a test area on Long Island, and we would try to validate that there were intersections, independent of the amount of traffic, that were dangerous in and of themselves, and whether you could computerize certain things about them where you could overcome the -- certainly where there's a lot of traffic, you expect more accidents. And if you take the effect of traffic out, there's still a problem, whether there were computer ways in which you could analyze what the problems were. And it was an interesting project, and I loved it. I was getting to the tail end of it. First it was a research project, and then it became a development project. We were out on the roads taking traffic counts, all kinds of things.

And an opening happened in upper management called Engineering Utilization. And I remember (Laughs) I came home and

discussed it with my husband, and he said, "Well, you know, I" -- and I could see I was blocked. I was a section head still, I was working for a department head that wasn't that wonderfully competent, I should say. But he was a department head, so he was young enough -- I mean, he was older than I was, but he wasn't going to disappear. And that would be the next spot, and that might not happen.

And so the president of the unit sent a memo saying, "Would any of you engineer section heads be interested in taking this job?" And a number of us felt the same way. You know, sometimes in a career it's good to take a little jog. But it was more personnel, and it would have been, even though reporting to the president, it was in the human resources department. And I came home and I said to my husband, "Do you think I should do it?" He said, "I can see you don't like what you're doing, but do you really want to do human resources?" And I thought, "Oh, well, let me try." I mean, there was nothing evident that was happening anywhere I was.

And I loved it -- I got it, and I loved it. And I did very well. The president and he -- you know, all sorts of confidences and special things he had me do, and all kinds of ways of looking at things. But everything was gray. I mean, I was so used to engineering, black and white, and at the end of the day -- and

I've alluded to this before -- you have an answer, or the next day you have an answer, or you say you can't get an answer. But it doesn't sort of hang out there in limbo. Well, in human resources, like I would do a bunch of things, and the next day they'd be undone because something would have happened. And maybe they'd think about it next week. And it was -- I'm sure there was really good work being accomplished, and I did very well. And I rose in it.

We had a big unionized -- both engineering, professional work force and factory work force, and I took part in union negotiations for the company three times -- very interesting. And I loved it and I really did well at it. But I did have this funny feeling about human resources, and I wasn't -- I mentioned this on my very first job that I'd never thought, "Well, gee, maybe that would be a full career for me to be a manufacturing engineer." I thought, "This isn't really engineering." And I was beginning to feel that way about human resources.

Even though I had been managing programs as a managing type of an engineer, something about just human resources and benefit plans and all of that, I thought, "Look what's happened to me. I'm doing something that is back to sort of what traditionally women often do in industry and in business." They're in communications and human resources, and they've done very well

there. And I sort of was minding that, I thought, "Did I go to engineering school to be doing human resources?"

And so the president -- the new president said, "You know, Anna, you're talking about -- thinking about going back to the engineering division. But you could be VP of human resources." As it turns out, I don't think I was going -- I said I didn't want to do that, I wanted to go back to engineering.

But as it turned out, there was a change of events. The Sperry Corporation Headquarters were in Manhattan, and there was a bumping effect. Someone came from England and took the human resources job at headquarters here in New York. And that guy came into Great Neck where I worked as vice president of human resources. So if I'd taken it, I have a feeling -- I think I'm wonderful, but I have a feeling he would have -- I would have been bumped aside. So as it turned out, I probably wouldn't have gotten it anyhow, because I gave up what was a possibility of being named a vice president to go back.

And I was director of -- and I was still doing staff work, now -- staffing programs, we were moving people out of Great Neck, engineering people, evaluating the jobs and so on. And it was very interesting, and it was kind of a combination at that point.

And from then on, I was doing strategic planning for the division, which was a big -- close to a billion dollar part of the

company, and working with corporate headquarters, and was on the president's staff. And then Burroughs bought us out, and we became Unisys, so things kind of changed there.

And we had a new president, a man who had been at IBM. And that division of now Unisys got involved in an ethics scandal with the Navy. And one day we were -- I was giving a lecture or a talk to a group of people. I had the publications department, engineering design and development reporting to me, so it was a fairly large group.

And we saw the doors open, and all these people, FBI and others coming in with like cereal boxes, big cardboard empty boxes. What they were doing is taking all the files from a section that they'd heard were really involved in bribery. But it was the strangest thing.

Like we were -- you know, like, what do you do now? So anyhow, there was this major ethics scandal, and some people were involved in our division, and lost their jobs. And one went into the penitentiary.

But we had this new president from IBM, George Houser. And he said, "Anna, I'm going to make you head of all the" -- it ended up I had 850 people in a hundred offices all over the world. But when it started I had all the new -- all the offices all over the U.S. And they were the support groups. It was a job that's

called Supportive Complex Systems. It was people that, in fact, evaluate, and also put in place major systems, but then also support them. So some of it's field service, but it's beyond that. It's evaluation or working with the other contractors and so on.

And there was an office that started out. I didn't yet -- he assigned me, but it hadn't been announced. But there was an office in -- it was wonderful for me, because I met all kinds of new people. And there was an office north of Los Angeles that was having an ethics problem. And the reason he did it quickly is he had to show the Navy that he was putting someone new in place with a clean reputation and so on. (Laughs) And so you know, I did that.

And that's the sort of thing I found really challenging. And I wouldn't call it -- I don't know whether you'd call it engineering, but I had to know about it. And the thing that I did everywhere I went -- and there were these -- some of them were these really hard blood and guts kind of engineers, you know, that were on shipboard, up near -- we had Clark Air Force Base in the Philippines, and so on. But it helped me, because I always started and said that my very first job was a job like yours, that I was out at sea, and I was on -- you know, and I would give a few anecdotes about it.

And I think it did help, because certainly at that little point in time, I really predated, you know, the diversity issues and the quota, and affirmative action things by a lot. But people would not necessarily know that. And there was a thing about it, because they were adding both women and minorities into jobs. And I just happened to have predated that.

But I would address not that, exactly, but I would say, go back in time, well, twenty, twenty-five years, when I had those kinds of jobs as they did, which is out at various bases, you know, defense bases and so on. And it helped me a lot.

And so you know, the job grew. And you know, I went -- we were doing weather radar installation all over the world. But I was going -- at the same time I'd gotten onto a corporate board, and I was traveling for it, so I would hesitate. I could have -- if I wanted to have a boondoggle, (Laughs) I could have traveled all the time. And I did go to Europe several times, up to the people that reported to me in Europe, because we had promised the Navy that I would do that, that we wouldn't just check by phone or mail or have them report, but to actually get on the scene with them. And that was wonderfully interesting.

And then there was -- you know, I was getting -- I was close to retirement. And again, there was -- you know, at the top, this George Houser left and someone else came in. And they brought

someone from the now new Unisys Headquarters just above me, (Laughs) and so I was -- you know, I had the choice. I wanted to keep working. I enjoyed it. The children were grown and out of the house. And that and Columbia were like major passions for me. I'm not an athlete, I don't do that, and so on. So anyhow, so you know, whatever it was, I liked that particular position, and I could see that I had a choice of trying to stick with it as long as I could, or take something that would fit into a retirement mode. And it was called Strategic Initiatives, because we were really changing the company over. Almost everybody that was one level above me was let go. And the Burroughs people, which is who had bought us, took over. And there was a man named Michael Blumenthal that had been Secretary of the Treasury -- and I'm trying to think of whether it was under -- Carter, I guess -- and he was a CEO, president of Burroughs, that bought us. And he brought senior -- he went to all the different locations, and the senior managers, maybe twelve of us at each location. And he kept saying, "It wasn't a takeover, it was a marriage." Well, it wasn't a marriage, because he fired almost everybody. (Laughs) But I mean, he didn't fire, he would give them early out and so on.

So there I was seeing that that was going to kind of happen to me. So I took a staff job called Strategic Initiatives, which

took part -- helped take the -- do the reconstruction of a new vision that they had.

Now, interestingly, when Unisys was buying us, I was part of the book. They had the list of the executive staff. And I was one of the people that had promised to stay on for them. But that didn't matter, because even the president was -- I say, "let go," he was asked to retire. So in a way there were -- I -- again, I felt that I was almost ready for that new really big job when something was plopped in front of me. And then -- and I was very -- I was feeling resentful and upset, and I was close to sixty-five. I was sixty-three probably.

And I thought, well -- and I hesitated, because the things that happened to me in several occasions like that happened -- would have happened if I were male or female. But it did -- those were the points at which I questioned about glass ceilings and so on. And that really was the case at the end, because if I had gotten that next step up, as they started to put us all together -- some people were asked to leave immediately. The president was. But gradually, people were being replaced from the Burroughs Headquarters staff. And if I had been one step up I probably would have also gone. And I loved working, and I was enjoying what I was doing. So in a way, the things that I felt, whether or not being a female had anything to do with it, might have -- I

thought that, but then I was rational enough to think that it was not that.

But I do have a sense -- and I was asked this as I was retiring -- some of the women that were -- the head of HR was a woman, and other people -- people asked me what I thought about those years and being the only woman in top management and so on, is that I never -- I'm very talkative, and I have a nice loud voice. And I used to not speak a lot at meetings when I was very young in my career. But later I learned if you don't talk that no one's going to pay attention.

My very first job when I went out to sea -- and so when I had this woman professor, I thought she was (Laughs) -- at twenty-nine was an old person. But anyhow, she had said to me when we'd go to these meetings with top Navy officers, she'd say, "Well, you know, I just want to tell you something. I know you're quiet." I'm not quiet, but I was quiet then. She said, "You should say at least one thing at our meeting." And I think it's true, that if a woman just sits-- I feel that way. If I go to a meeting, male or female, if we're supposed to be in a meeting of maybe ten or twelve people, and you're asked because of your position and your judgment or whatever and you haven't said a darn word... I think of it when I'm viewing people. Even now I do stuff at Columbia and we put -- we have board members -- I've been to two or three

board meetings when that person has never even said one thing, like, "I like it," "I don't like it," "I agree," "I don't agree" -- something. And I thought that was good advice, that you really should, because otherwise then you do really seem as if you were just there because you were the only woman, for example, or whatever. And I've thought that. But anyhow, to get back to the tail end, and that was an early lesson.

(INTERRUPTION IN RECORDING)

LK: This is tape two of our interview with Anna Longobardo.

AL: Okay. I think we were in the midst of saying about my working career. And it's wonderful, absolutely gratifying and rewarding, both financially and otherwise, which is what's nice about the engineering profession for women.

And I thought about it as we were talking about what I might have done differently. And there were times in my career, and I've mentioned this, that I felt things were -- that I knew that I wondered if I was -- the glass ceiling issues. But there really were circumstances having to do with companies being bought and things being reformed and so on. But if I had something as I was retiring -- I talked to a few other executive women in our company -- I was the senior executive woman in our division -- but others close to me. And I thought that there were times that I could have, and like I never asked for a raise. And except for taking

kind of a switch and a jog in my career, I didn't ever ask for a promotion. And I've seen -- and I've read about people now that do, men and women that do. And although I would find it irritating and wouldn't like it when people working for me asked, (Laughs) I wouldn't find it comfortable particularly, because I usually felt that if they were worth more I would give them more. I was very fair about that -- and similarly with jobs.

But yet I do know that being slightly demanding, more demanding than I was -- or making it -- we kept getting new people in because we were bought -- making them aware. It seemed like I would be bragging to them, and I didn't want to do that. I would send in -- if there was a press release from Columbia, for example, that I'd gotten this big job at Columbia, I would have it sent to headquarters, and it would be picked up. And there were stories about me in the Columbia -- in the Unisys Magazine. But my advice really would be to women to -- you really have to do a bit of tooting your horn and speak out even more than I ever did.

And also, I guess I was too fair-minded. I worked for the president. And then he took -- I had a whole bunch of groups reporting to me. Oh, contracts, purchasing -- major contracts, many tens of millions of dollars, as well as all the technical jobs. And he tucked it under -- the president of our division tucked it under one of the vice presidents.

Now, I had been on the president's staff. The president still wanted me on his staff. I've saved that letter. But this new vice president said to me -- new/old vice president who was still kind of a friend said to me, "Well, it wouldn't be fair, Anna, you'd be the only one on my staff now reporting to me that would also be on the president's staff." Well, why should I have cared? I mean, in fact, the president told him to do it. And yet -- I don't think he liked it. He didn't like that feeling. And I kind of went along with it.

I don't know whether it made a hill of beans difference finally at the end. But here it was obvious what was happening. For convenience they were sort of -- so they wouldn't have as many departments and so on, were putting it together under this titular head. And he kind of even said that. But I didn't even -- I could have even shown him a copy. He sent it to him. But I could tell him that I knew it. I didn't do that. I got a copy, and yet he didn't know that I'd gotten a copy.

And another time, the head of all this part of Unisys, all the defense -- which was a huge thing with its headquarters in Mclean asked me to come to see him. And I had seen him. He was cute. (Laughs) He heard my son was a lawyer or a lawyer-to-be, maybe, at that point, maybe a lawyer. And his daughter was, and he was trying to match make them. I had to say I'm sorry to

(Laughs) Fred Jennings, he's engaged. But anyhow, it was kind of social, and he thought I was fun, and he enjoyed it. And we met at an offsite. And he said, "Be sure to come down to see me."

Well, I saw him after that at various things, but I didn't just pick up the phone and go down there. He asked me to, but still there were people -- there were levels in my division here. And so it was the opposite. I almost felt, well, why -- it was almost like he said that because I was a woman. In other words, there were times I just was too thin-skinned. And I was really too fair. I thought, well, you know, why is he -- well, especially that -- when Norm Meyer said, you know, "Well, gosh, there are other people that might want to report on the president's staff." There was one other like me who was tucked under. But I don't know what the president had told him. In my case he had said I could stay.

So there were times that I think I should have risked being overly aggressive. You know, what is it if all the things they say -- you know about women and men. If the man is being thoughtful and wanting growth, a woman's being overly aggressive. Or maybe they'll say about him he's "Maybe a little short tempered," and they'll say about her, "She's a bitch," or something. (Laughs) There are these parallels, and I did have a sense of that.

So I think to do over I had a wonderful career. And it was, as I said, rewarding in every sense of the word. But I think I had the capability to be the big time probably, if I were ten years younger.

And that sort of leads me to Columbia, because I was asked to be on the board of the engineering school's alumni association. My husband had been before me. I had been busy doing -- I guess it was before the babies, but managing being part of a family, a couple, and my work. And I was traveling in my work a lot, and I never did it. So when they asked me to be on the board I said I would do it as long as I wasn't the token woman. (Laughs)

And then I found -- which I have found to this moment, because I'm still doing volunteer work -- that when you do this pro bono work you rise like a shot if you -- you know, the famous thing, just if you least attend, if you appear, that's -- but people take these jobs not too seriously. But I did very seriously, so I got on the board. And then I was vice president, and became president of the alumni association for the engineering school.

LK: The first woman president?

AL: Yes. Well, I was the first woman. Then I went on -- the people that were presidents of all the associations -- there are eighteen of them -- serve on an alumni council with a

federation. And I served on the alumni council. And I rose like a shot. I became president of all 200,000 alumni in the university, and was the only two-term president -- the first woman and only two-term president so far. I was for four years. And I got on the engineering dean's council, which is sort of the people with bigger jobs and I little bit of development, money searching and so on, but mostly executives, like the chairman of Con Edison, et cetera, all kinds of people like that. And I was on that for a while. I was on it -- the president of the alumni association was -- oh, ex-officio member on the engineering council. Then I got chosen to be on the council. And then I chaired it for four years.

And then all of that helped, because we have six out of twenty-four trustees at the university are alumni. And I was asked to run -- it was a full ballot then. It no longer is. And I really won overwhelmingly, like three to one in the votes, and mostly, I think, because I'd already been doing things on campus and they knew the name. So instead of it being, you know, all those men that might vote against me, it was the other way around. The other candidate they didn't know very well or had heard of, and then knew me, and I was very vocal and making speeches and things like that, so...

And I found all of that was so flattering and wonderful and

rewarding. And I love Columbia. And my husband and I -- he's got three degrees. I have to two Columbia degrees. The kids now have -- one has a law degree and the other an MBA from there. So it's very much -- you know, people say, "Some people that are similar" -- and there are lots of families like that -- that everybody goes to Columbia, and they're known on campus, and et cetera. You know, that it's blue -- it's Columbia blue is our color. It's blue instead of red in our veins. But I do have a strong -- a big involvement with them.

And you know, I can't -- you know, I've been on a hundred different -- I am now on a hundred different -- on nominating committees and evaluation committees and so on. So half my time is on the road going down to campus, which is what you interviewed me in the middle of yesterday.

And the other thing that I -- well, a couple of things: At the tail end of my engineering career, my work career, maybe the last two or three years -- and Eleanor Baum and I were at a meeting of the IEEE [Institute of Electrical and Electronics Engineers], and it was about women in engineering. And it was written up in the New York Times by a woman editor of the business section. And it talked about the fact -- at that point I had these 850 people all over the world. And I got a call. My secretary kept saying, "She's not" -- (Laughs) "doesn't need a

job," kind of answer, only because I was kind of nearing -- you know, I was sixty. She knew I wasn't going to leave. And it was from a California firm -- California headhunter. And I didn't think she should have turned him down, anyhow. But she did, several times, say that I wasn't available, I was either out of town or at business meetings, but also that probably wouldn't...

So then finally he said it's not for a job, it's for a corporate board. And I interviewed for it. They were in the Transamerica Building. You know that big pyramid in San Francisco? And I had to talk to my own firm about it, because there couldn't be a conflict of interest. But it was, it was civil engineering, and environmental engineering, and construction. And it was wonderful. It was very different from what I normally do, and it was an interesting group of people. And so it helped me, when I retired, I wasn't really retiring -- retiring from career, I had this. And maybe -- I was there maybe a year, and I was not -- after all, I wasn't part of their firm. I was on their corporate board. There were several other outside directors.

And (Laughs) I remember the office was opposite the big hotel we were at. And if you did it the traditional way you had to go to the corner or drive, maybe, and get across a bridge and go. But if there was no traffic, you'd just run across. And I was

running across with the chairman of the board of this big company. And he said, "You know, I'm going to retire, Anna. What would you think about being chairman?" And I'd only been with them a year. I was not part of the company to start with. And I thought, "Well, I'm going to faint right on the highway."

(laughter)

AL: So all I could think of was getting to my hotel room and calling my husband, which I tried and he wasn't home. Then I tried each of my children, they weren't home. And I couldn't believe -- how could this happen to me? And it was wonderful, and I would have loved it. But really, I wasn't -- they picked an -- three of us applied. They really told me I had it. They said I wouldn't have to move from New York. What I could do is get an apartment there and go one week a month. And I knew that I was thinking of retiring, and I thought it would be perfect. But really, because it was privately owned and the employees were shareholders, like Parsons Brinkerhoff and Bechtel Corp. is the same way. Some of these big -- especially construction companies have that format.

And I don't know what all the shareholders would have thought. You know, there have been people -- and I mentioned this before -- there have been some men who are sort of -- not mentors, because it was not over -- you think of a mentor as a continuing

kind of relationship. It isn't that. There are some men who's interest is peaked by a woman they see as a -- you know, really has leadership skills and can run things. And if they're fair-minded, they -- you know, it has a positive affect. And it's happened a few -- when I was having my first baby, (Laughs) the obstetrician, as my son was emerging, said, "Anna, I hope you're going back to work." (Laughs)

And it turned out his wife was a physician. And when they were in medical school together, she got -- which used to happen then, they weren't the only ones -- and I know of a friend who was a nurse, the same thing happened -- she got TB in the rounds. And so just when she was finishing and starting practice and she was going to have a family, or maybe had even started having a family, she had a long period of convalescence, so never went back.

So I kind of wondered, you know, I had natural childbirth, so I wasn't really in agony or anything, but I thought, "What a time to talk to me about this." (Laughs) When I went to the office on my first checkup, he said he wanted to tell me that she was very distressed that she hadn't continued, and it had changed, you know, her view of things. And he wanted to encourage me, which -- so there was -- there have been people like that, that have -- you know, that have--

Yeah. And so similarly, this head of Woodward-Clyde, I think

he liked the idea, and you know, it wasn't over a long -- and I always -- people say do I have a mentor, and I don't know if that's one of the questions you ask, because I have never had. But I've had people that have been interested in me or liked me or thought that I had what it takes to have leadership skills. And so there have been those kinds of -- and that has helped me -- my view of myself. So anyhow...

LK: Have you had any role models in your life?

AL: Not really. Not female, if that's what you mean.

LK: Or male.

AL: I admire people of accomplishment. I'm very attracted, as a woman, from early days by bright, able people. And I really don't like self-absorbed people so much. And so there are people that -- like the big jobs who think they're the cat's meow kind of person, and that wouldn't be interesting, so they wouldn't be a role model. There are women that have been very admirable. I started -- like a Lillian Gilbreth, or the women astronauts, or accomplished women in our government. But a role model, to me the words make it sound like it's someone that you might model yourself after, I don't know, is that kind of what it means? I don't know what it would mean. I mean, there have been marvelous people through all periods.

I have close friends now, even though I mostly have men

friends. And I'm very comfortable with men, or traveling with men, and I always have -- it's almost unusual, and yet there's the treasurer of the university, Pat Francey, a wonderful woman, and you know, I can chitchat with her a bit and find out what's going on and stuff. And there are some very accomplished women that I like being around. I had not thought that was a case very much. And I never had a -- I guess something called the queen bee syndrome, which I hate, which a woman makes it and she doesn't want to help anyone else -- any other woman make it, because they're getting the glory. So I never had that. And I did encourage -- I gave a course at Sperry on advancement of women, because I found there were women with college degrees, but not engineering degrees, that had gotten kind of periods of not wonderful employment – got jobs as not secretaries so much as clerks or financial analysts, but really low-level, and not well paid jobs, who had very good educations. And I was giving the course for the company, and I felt like saying, you shouldn't be in a company where all the management are engineers. I mean, the chances -- they all wanted -- yearned to be recognized and moved up. Well, we did have a librarian, and the librarian reported to me, and her assistant, and people in human resources. But the main part of the jobs in management were engineering jobs, and they were kind of stuck there. So I did this course for them to

say you should really evaluate yourself and improve. So I never had the queen bee, I really got people into jobs. I took women if I thought they had the background, so I did help.

But what I minded was there was this period, and you know it yourself, is that -- when you read about it, because you're too young to know -- but like in the '70s there was this mentoring and the business of having networking. And people would come -- not such accomplished women, but because they saw me as a role model maybe in their case, or a woman, you know, a senior woman in the company, they'd want me to do something for them. And I never -- that irritated me, because I really thought you could only do something for yourself. And I would kind of almost tell them the important thing is to do whatever you're given well, and if there's an opportunity to apply for it -- and I tried to...

But there was this thing, and I don't know that it exists so much anymore. I don't even hear the word about -- people network now if they want -- trying to get a job, and they're out of a job so it's really networking, go to everybody you can think of. But this just getting together and jawboning about -- and almost every company started one, and I think it's one of the things they used to report to the EEOC [Equal Employment Opportunity Commission], is that do you have a group where -- in the case for blacks or for women -- and it would be separate -- whether they can indicate

their feelings of disuse or misuse, or whatever. But frankly, I don't think that works. I think the important thing is to stick your neck out a little bit for opportunity. And I kind of mentioned that. I mean, I did do that, even though I didn't -- I felt I could have spoken up more. But I did whenever -- you know, given something, I would do it to the utmost. And it certainly has helped at Columbia. And I'm, you know, very well thought of there, and people come to me for help, and consultants come, and so on.

And here in our village I had done nothing, because I commuted to Long Island, I was raising the children. I did everything at Columbia. And together my husband and I -- I mean, we do a lot together. But we have a beach house and we have this house. I'm very, very over-committed and determined. And probably all the women you talk to are like that. So I had done nothing here.

And they asked me to do an ad hoc committee on our central business district. And I liked it because it was only for a year, and I could do it and get it over with, kind of, and I wasn't sure I wanted to commit to it. Well, as soon as you do something and do it well -- and engineers are so used to, as I said, to get to the bottom line, you want the answer, and then go on to the next thing. So I've been -- I chaired the design and review committee

in our village, and I'm on the planning board, and we're -- there's this thing in American housing now called 'McMansions' where they tear down a tract of small houses and put these giant things like McDonald's is what they mean, so they call them 'McMansions'. And people have to examine their zoning to make sure that even with the setbacks that you have around the houses that someone can't just build a house that completely fills up. So we did a zoning review, put together a zoning review board that they asked me to head. And I had consultants and lawyers and so on.

And it was not -- it was only about two and a half months, but I loved it, because I really felt -- I don't know whether that's engineering, exactly, Lauren, but what it is, is it's -- that's what's helped me the most, and I've loved about engineering is I can do -- you could ask me to do something really abstruse, like go look at the Audubon Society -- I'm just making it up -- or something, and I really think I or anyone else trained in engineering that's at all smart and able is to take all the stuff and peel away the things that are not relevant and stick to what the issues are, and what the problems are and be helpful. I don't think it works in every single case, but really a lot of the engineering training is great for that. It's really wonderful for that. And in that sense, it's a very rewarding profession. I

really get to the nub of most everything pretty quickly; I, and others like me.

And even though I said like you have a parallel -- you said schizophrenic, I do have a mind that thinks of a hundred things at the same time. But there's something about the engineering education, only probably because it's so problem oriented, that you look at the problem and think about what I need and how to get to the bottom. And it's been really wonderfully rewarding.

Other than that, I've thought, as I mentioned to you before we even started taping, that I've wondered -- I was so determined to be an engineer and I have such stick-to-it-ness, and people -- what is my success? I've thought it's really -- I mean, it's nice to be bright. You need to be pretty bright, and the education is pretty difficult. But the real thing has been -- in my career and my life has been determination. And I see it -- I guess my daughter has it, and my three year-old twins have it. I mean, the girls that I've spawned have it. (Laughs) And maybe it's genetic, but we are like, "We're not going to give up on that thing. (Laughs). You probably have it, or you won't have traveled so far to interview all of us.

(laughter)

There's something rewarding about getting something done. I don't know whether poets have it. You know, there may be a whole

different class of people that are... I suspect maybe in the arts that isn't the same thing.

LK: Well, you know, in our last few minutes, as a founding member of SWE, can you give your thoughts on whether or not there's a need for SWE today, or what role SWE might have today?

AL: Well, certainly right now, SWE has a wonderful purpose, and that is the guidance of women to even consider engineering as a profession, and to give them a view of how engineers have performed, and so on, which even this tape would be part of.

I would hope that eventually, that just as we don't have a society of men engineers, we wouldn't need a Society of Women Engineers, except if it took a different role. And I've discussed this example of the advertising women in New York and in the U.S., and also the economic women have -- I think it's called the Economic Women's Round Table, I think -- or had been that. They're women, and they're in pretty big jobs in both of those industries. But my sense is, and the little that I know of them, is -- and I'm sure they do some work with guidance for people trying to get into the profession, but they really are -- it's beyond just being women economists. They have a broader view, and somehow it's -- somehow a bit less pedestrian in their view. And I'm not sure that you might not say the same thing, "Why don't they join the advertising men's group," and so forth. And one

might say it. But that's the kind -- I think that they have somehow transcended being as -- whatever the thing is that I viewed with -- which may change.

And since I'm not so active in SWE anymore, my sense, at least with the New York Section, that it -- and I think the young women that I've met in the New York Section now, it's not as much a social thing. But it was quite -- they got -- the early years, people got to know each other very well, socially hung out together, did things together, encouraged young women, certainly. The guidance function was always important. But it became almost a second family, and a home to all of them. So anyone who had a broader view of their own life would not be so attracted to joining it. And maybe it's gotten to that point. Maybe it has broadened. It had a wonderfully important function.

I've seen it, the Engineering Foundation at a Women in Engineering session, and the Society of Women Engineers president spoke, but it wasn't as compelling a discussion. And she was very bright and an able speaker, but her comments were not as compelling as some of the -- for example, the dean of engineering of one of the universities, or someone very high up in industry. And I felt that -- I suppose if you were new and didn't even know about Society of Women Engineers -- because there were people from abroad there too -- you would think that it probably has a role to

help women in the universities and engineering schools. And it didn't seem to be broader than that, in the way it was described. And so it wasn't so interesting. And I worried about it.

And I had thought -- maybe you know the answer -- I had thought membership was not increasing the way it should have been. Now, has that turned around?

LK: Well, I just know that there are about 17,000 members today, so--

AL: Yes. Well, that's a pretty big group. But for a while, it leveled off. And I think it even -- maybe the increase had dropped. But something had dropped. Maybe the actual number didn't drop, but some...

And there at that Montreal meeting where it was discussing in general engineering and the women in engineering, what we heard was that a lot of women drop out because they feel uncomfortable, that it's not a welcoming atmosphere, that it's a man's world.

I never had that sense of things, even though I told you I was very traditionally brought up and all that. But I -- if maybe (Laughs) if that concept and those thoughts and those feelings, if maybe some of that could be addressed, I'm not sure how it could be. It takes -- it's an interesting thing, and I'd find it earlier in my career. Certainly I didn't have it later, but certainly maybe until age thirty, thirty-two, if I got to a new

group, I would wonder about lunch, for example. Because that's what some of the women got up and said that they only ate with the secretaries. Well, first of all, I don't think of only, and I sometimes did eat with the secretaries. But they didn't feel socially welcome.

Well, I just didn't pay any attention to that. And you were, if you were nice, and you were fun, and you were interesting, or not everyone -- some of them might think you were a pain in the neck, but someone else might like you or seek you out, it would work out. It takes a little bit of guts -- a little bit of guts. But this famous thing where I said I thought that because my grandparents thought I was wonderful (Laughs) I really believed it, and I thought if someone wasn't being too friendly that it wasn't my fault, it was his.

But anyhow, I think -- I don't know what that would be called. And I've seen lectures in the various SWE conventions about behavior and so on. But that seemed to be a very overwhelming thing about the dropout rate, was that it was an unwelcoming masculine atmosphere. And yet you know, I know civil engineers are now doing field work with hard hats and so on. I mean, there are changes that are very prophetic about it being all right. But yet, evidently, there is this big number dropping out and not liking it. Now, maybe there is in other professions as

well. I know lawyers and drop out and some of... But women feel about the profession as still being very masculine, which kind of surprises me. So I think that might be something SWE would do.

I think probably what SWE is doing right now when I read the monthly magazine, or I guess it's -- is it monthly or bimonthly -- whatever -- that it sounds like it's doing a lot of what it does well. I think that the encouragement of those students that have joined the SWE sections and the lectures and all of that is probably very good. I don't even know what Columbia and I had -- I've lectured to them a number of times and so on. But I don't even know if every woman engineering student joins the sections. Do you know if they do in the universities or not, or engineering schools?

LK: It varies.

AL: It varies, yeah. Well, the positive thing might be if those young women who are alert and bright and aggressive enough to want to be engineers are also doing wonderful things in other organizations. That would be a very good reason I would consider, that they're not becoming SWE members. So anyhow, I think that's all I have to say. And thank you.

LK: Well, thank you very much.

END OF INTERVIEW