Interviews of the Margaret MacVicar Memorial AMITA Oral History Project, MC 356

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Sharon Ross – class of 1965

Interviewed by Emma Bernstein, class of 2020

September 28, 2019

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Sharon Ross (SB Mathematics ’65) was interviewed at MIT on September 28, 2019 by Emma Bernstein (SB Computer Science and Molecular Biology 2020).

Ross applied to MIT without having ever considered that it was uncommon for a woman to do so. At the Institute, Ross earned her SB in Mathematics, as one of 25 women in her class. She then earned a master's degree in teaching at Harvard University and subsequently taught high school mathematics in Atlanta. Ross then pivoted to pursuing her own mathematics education, earning a PhD from Emory University, where she focused on algebra. (Her thesis was on algebraic modules.) In the final two years of her PhD, she began teaching mathematics at Dekalb Community College, where she would continue to teach for 25 years. When she retired, Ross was a Professor of Mathematics at Georgia Perimeter College (the successor institution to Dekalb). In addition to her teaching responsibilities, she published textbooks in precalculus and discrete math.

Ross has given back to the MIT community throughout her career. Among her other affiliations, she served on the Alumni Association’s Board of Directors and as director and president of the MIT Alumni Club of Atlanta.

BERNSTEIN: Could you start by telling me a little bit about your childhood, how you grew up?

ROSS: Well, I went to kindergarten in Cambridge—after my parents’ divorce, I lived with my father’s parents—and then I spent almost all of first and second grade up in Gloucester [Massachusetts]. Then I left to live with my father again. From there I moved around several times and ended up finishing high school in middle Tennessee.

BERNSTEIN: Can you tell me a little bit about your high school experience?

ROSS: The high school I started in when I lived in Hampton, Virginia was a large, new one. But in my sophomore year, February, I moved to middle Tennessee, where they were building up an Air Force base. The school there was totally overcrowded. They had grades 1 through 12. My five-person Latin II class was held in a fifth-grade room while that class was at lunch.

BERNSTEIN: That's crazy.

ROSS: I think we got bounced out of there, so we were next meeting in a room under the stairs in the basement. In the end, I think there were 68 graduates in that senior class. Probably half of them local kids and half of them Air Force kids.

They didn't want to share valedictorian [award] between this other girl and myself. I wasn't their favorite person, maybe. At any rate, the other girl had plans to go to nursing school. I think three or four of the Air Force kids went off to college and that was it. There were no advanced classes, no AP courses, no honors courses. I had the same lady teach me chemistry and physics. She also taught me biology half of the year. But it happened to be the half I'd already had in Virginia, so [LAUGHS]. It was too easy.

BERNSTEIN: A little peculiar.

ROSS: But then I went to take the SATs. Because I had to go into Nashville, about 30 miles away, I did them all in one day. Basics in the morning, the advanced subjects in the afternoon. I remember on my lunch break talking to some other girls about where were we applying, where were we going to go to school. They were looking at the Seven Sister schools mostly, because very few schools in the South wanted SAT scores, and certainly not afternoon scores. As soon as I said where I was applying, that was the end of that conversation.

BERNSTEIN: What did you say to them?

ROSS: I said MIT, and they said, “Oh, isn't that nice?” They went away.

BERNSTEIN: Did you move around a lot because your father was in the military?

ROSS: Yes.

BERNSTEIN: It seems you weren't really being challenged in your math and science classes.

ROSS: Not terribly. Nor in the others. I did have the good fortune of coming along post-Sputnik. The U.S. then was very conscious of trying to catch up [to the Soviet Union], so National Science Foundation was running a lot of summer programs.

BERNSTEIN: Right.

ROSS: So between my junior and senior years in high school I spent six weeks down at Ole Miss [the University of Mississippi] doing a little bit of six different sciences. When I came back home from that, I went directly into another one of the NSF summer programs that had been running for about a week or so. I just did chemistry and math with that one. I didn't get a whole lot from either one of them, except they probably finally convinced me that, no, I wasn't going to do physics. That involved labs, and you could blow things up! Math seemed like a safer choice.

BERNSTEIN: Did your teachers encourage your interest?

ROSS: The most encouraging teacher I had was an English teacher in 10th grade. Overall, the sciences seemed the best choice. While I liked history and I could write well, I didn't see what you did with any of those later on.

BERNSTEIN: Did you always have an affinity for math and science?

ROSS: I was one of those kids who was pretty good in school. It depends on what you love, what your parents are asking from you. I didn't particularly have pressure, but for a while I was an only child. I learned to read very, very early. I remember I was still in Cambridge living with my grandparents, maybe before kindergarten, making my poor grandparents read me the same Little Golden Book every night – the same one every night until I had finally matched all of those little black marks up to words. Then I let them go on to do something else [LAUGHS].

BERNSTEIN: That's very cute.

When did you start thinking about applying to MIT?

ROSS: My dad graduated from Rindge [Cambridge Rindge and Latin High School] here in Cambridge – it was Rindge Tech when he was a kid. Then he worked here at the Institute [MIT] in a couple of different labs just straight out of high school. Just a little lab person. Also, I'm sure I knew of MIT from visits to relatives and friends in Cambridge.

I also remember that when I was in Algebra 1, it'd be ninth grade, I was still in Virginia. The teacher finished for the day and was just going around asking students what they were going to do. I said I was going to MIT. It just came out of my mouth. It wasn't a conscious thought at all.

Actually, at the time I described earlier, when we were taking the SAT tests, someone asked me that day if they took girls – not women, but girls – at MIT. It had never crossed my mind. I never thought about it. I never looked into it. That's just what I was going to do. No one had said, “Oh, no, you can't do that. Clearly, not a lot of thought had gone into this because I didn't apply any place else.

There was a state university down the road from where I went to high school, so there was a college to go to. At that point, it was just me and a half-sister six years younger. I think it was always assumed that I would go to college. Anyway, certainly I knew that MIT had a reputation, but it wasn't that I thought, “Oh, I'm so brilliant that I can just send this off to them and go there.” I didn't know anything else I wanted to do! [LAUGHS] So it was a good thing they took me!

BERNSTEIN: After the girls made that comment about whether MIT accepted women applicants, you must have investigated. Did it make you nervous that the Institute might not?

ROSS: It didn't make me nervous. My recollection is a) I don't know for sure, b) why wouldn't they? and c) I don't know that I ever really followed up on it [LAUGHS].

It wasn't until I was here, it was maybe sophomore year and Margaret MacVicar was in my class, She and a couple of other people went down to do a tour of some colleges and was really surprised. When she came back, one of the things we learned was that Georgia Tech was just going to let women in to some of its graduate school programs. We all thought that was the weirdest thing. But the women in my class here at MIT, the women in my class here were a little out there anyway [LAUGHS].

[Margaret MacVicar, SB Physics ’64 and SM Materials Science and Engineering ’67 – after whom this oral history project is named – was MIT’s first dean for undergraduate education and a professor of physics at the Institute whose research focused on high-temperature metal and ceramic superconductors, single-crystal and thin-film materials, and corrosion kinetics. MacVicar served as president of the Association of Women Students and encouraged MIT to admit more women and minorities; tutored physics at McCormick Hall; and is best known for founding the Institute’s much-emulated UROP (Undergraduate Research Opportunities Program), which supports research partnerships between Institute undergraduates and MIT faculty.]

BERNSTEIN: Could you tell me a little bit more about that group of women?

ROSS: I had a conversation a couple of years after I got here with whomever was head of admissions at the time. We're talking, and he says, “Always, it’s somewhat the luck of the draw. All you see [in admissions] is folders of papers and not real people. But sometimes you get a class that surprises you, that's not necessarily what you expected.” It was that way for the women in my class. He said, “We certainly never expected a group like your group” [LAUGHS].

Not to put down the two or three classes of women just before us – we all hung out in the Cheney Room, so we knew everybody – but it just seemed to be a group that was going to do whatever they wanted to do. I have a clear memory of making an appointment freshman year with President Stratton [MIT’s 11th president, 1959-1966; SB ’23 and SM ’26 Electrical Engineering] because there was something I didn't like here. I couldn't tell you what it was. I have no memory of it now [LAUGHS]. As a freshman, I was going in to tell the president of the university that I didn't like whatever and thought they could do it better!

Of course, there were so few of us women, that [the meeting] was like, “Oh, hello, Sharon.” Everybody knew you.

I always would kid that I went to a men's trade school and a small, exclusive women's college at the same time [LAUGHS]. For example, the wife of the Dean of Students and the Dean—both of them—were just very, very sweet people. Their house was here on campus. One of the things she did was work her way through all the living groups with a Sunday afternoon tea party. She was very clever. She would have the freshmen women first and then have a sign-up sheet so you could volunteer to help out for this fraternity or this living group or something. If there was somebody interesting in 8.01 with such and such professor it was, “Oh, let's see, let’s look him up in the book. Oh, he's a Delt.” You’d get one of those guys with a cup and a saucer in one hand and a plate of little sandwiches in the other hand, and you really could figure out what they're made out of, whether they could deal with a challenge [LAUGHS]. Some of them, it was clear they were hopeless. You may as well not worry about them.

So I learned to pour tea here, learned to serve sherry, drink sherry. In that way, it was a fine woman's college as well! [LAUGHS]

BERNSTEIN: That's very funny.

ROSS: During freshman year, 18 or so of us lived over on Bay State Road [limited housing for women owned by MIT]. We lived on the Boston side [of the Charles River].

BERNSTEIN: McCormick Hall hadn't been built?

[McCormick Hall was funded by Katharine Dexter McCormick, Biology ’04 in memory of her husband, Stanley McCormick, heir to the McCormick family fortune. A women’s dorm, McCormick Hall’s opening in 1963 gave MIT the impetus to admit more women than it had previously, since the building provided women students with sizeable on-campus living space. Mrs. McCormick, a suffragist and philanthropist, funded most of the research that led to the development of the first birth control pill.]

ROSS: No. All of the freshmen women all lived over on Bay State Road. We were the last MIT house on the street. The next one to us was a BU house. It was MIT fraternities, BU fraternities, and then us. People would easily confuse us with the BU girls, and part of the difference for my class, too, my group of women, was that the long-time house mother had retired. They got a new one. She was experienced, but she had been a house mother at BU for a while, and that was a little bit of a change. She worried about us being kidnapped by the Russians for our brains! We were all saying, “Hmm” [LAUGHS].

But about, really only about maybe six weeks into the fall term, her son had a horrific motorcycle accident and was at Mass General for months. She was there all the time. We just said, “Well, that's OK because we had [Margaret] MacVicar, and we had some others. We organized ourselves pretty quickly. When she finally was back at the house full time, we didn't need her and we weren't particularly tactful about making it clear we didn't need her [LAUGHS]. The upshot of that was she stayed in her room on the second floor next to my and my roommate's. She took to having bottles delivered in brown paper bags to the house, and when she left at the end of the year, she took the silver tea service with her that Mrs. McCormick had given to the house [LAUGHS].

My class was quite a group. For our 50th reunion, one of my classmates and I decided we would try to chase down not just the women in our class, but any of them who had started with us, see what happened, and just talk about the whole thing. In the end, we got all but two. We had one [classmate] whose heart was set on going to Radcliffe, and they turned her down twice. When they finally took her in, junior year, off she went. I never understood that.

At any rate, it was a pretty good group. Two graduated in three years, two graduated in three and a half. And a fifth woman graduated in the summer in between [LAUGHS].

At any rate, the admissions officer said to me that it was a very different group than the two years before! We were nice, and we’d decide what we were going to do and then just do it. My roommate, for example, at one point decided she wanted to do some singing—not that she'd ever done any serious singing, but she was one of those people who could do anything the first time. Before we knew it, she had persuaded the Institute to fund a female singer with the dance band and buy her some clothes for it [LAUGHS]. She thought that would be fun to do.

BERNSTEIN: That's hilarious.

ROSS: At one point, she decided she wanted to learn how to fence, so since I was her roommate, off we went. The fencing coach was perfectly happy to have two women—he was very good about that. It was all practice against the guys, so that was good for us. No one had turned up before to do it.

BERNSTEIN: That's great. Did the construction of McCormick begin while you were a student?

ROSS: Yes. When we were freshmen over at 120 [Bay State Road], there'd already been several years of conversations with Mrs. McCormick. She was living on Comm Ave and Institute people had been to see her [about it]. Also, they were

sending co-eds to go see her and talk; she'd always been very supportive. Besides this tea service, more importantly, we had a taxi fund at Bay State Road. And you set your own rules. What we decided was that if it was below 20 degrees, if it was raining, if it was really late or whatever, you'd just take a cab from the institute [rather than walk across the bridge to campus], and the house would pay you back. So she was always very interested. The negotiations went on for a very long time. What I heard was she was very generous. She had given money to a lot of causes and a number of colleges, but she was one of those people who never quite really let go of the money [LAUGHS]. The Institute had been somewhat cautious about dealing with her. But the decision somewhere about 1956 or [19]57 was, "Either we do something about living situation and other issues for women at the school or stop taking them in, because we're not doing what we should be. We're not doing the same thing that we're doing for the young men."

People would go and have tea with Mrs. McCormick on Comm Ave and talk about plans to put a little kitchen on each floor, and things like that. After freshman year at 120, a couple of classmates and I, we spent a year at Bexley [Hall].

BERNSTEIN: Was it co-ed when you were there?

ROSS: Yes. There are a bunch of women living in it and there were guys living there. It wasn't all women. Someone just said to me, "Do you want to live together next year? We can get an apartment at Bexley." I said, "Sure." You know, roll across Mass Ave. and you're in school. It sure beats going across that bridge [the Mass Ave Bridge] twice a day.

BERNSTEIN: Right. [LAUGHS]

ROSS: We were all settled in to stay there for the three years, but just before junior year, they said, "We're ready to open McCormick, and we're going to have all of the women live in McCormick." The story was that that was to have food service justified [in that location]. Who knows! [LAUGHS]

So junior year I had to go to McCormick. Mrs. McCormick came to the dedication, gave her speech. Big black hat, long black clothes. I looked down: she's got the little black-button boots on still. And she was short. There are great, great stories about her.

When our class was doing part of the research for our 50th reunion, we were thinking, "Oh, yeah. We knew Mrs. McCormick." She graduated, I think, in 1904. She was a bio major. We said that she had to have taken chemistry, and one of our guys did that research for us; she did take chem classes from Ellen Swallow

Richards, the first woman who ever graduated from MIT. Richards also taught chemistry at MIT, married her chemistry professor, and stayed until she died.

[Ellen Swallow Richards was granted admission to MIT in 1870 as a special student in chemistry and earned her SB in 1873. A trailblazing industrial and environmental chemist, she became MIT's first female instructor, teaching chemical analysis, industrial chemistry, mineralogy and biology, including in the Women's Laboratory at MIT (which advanced the education of women in science), which she founded. Her studies of adulterated foods led Massachusetts to pass its first food and drug safety laws. She was also an expert in water safety and marine biology as well as a pioneer of the field of home economics.]

BERNSTEIN: That's cool.

ROSS: Yes, we thought that was great. We also turned up one wonderful story; Mrs. McCormick was a big supporter of Margaret Sanger and contraceptive rights. She funded a good bit of the development of the [birth control] pill. And at the time, probably in the last set of teens, even to discuss contraception was against the law in Massachusetts.

BERNSTEIN: Wow.

ROSS: She was on a trip to Paris, getting a new wardrobe, and she and her maid stitched a thousand diaphragms into her petticoats and gowns and everything to smuggle them back in--

BERNSTEIN: Oh, wow.

ROSS: --through US customs. They opened the trunk and here are these lovely gowns, satin gowns [LAUGHS].

BERNSTEIN: That's amazing! Did you go to have tea with her?

ROSS: I never went. I never met Mrs. McCormick. The closest I came was at the dedication; we said hello there. She kept sending things over to McCormick after it opened. She'd be at the house on Comm Ave and say, "Oh, look at this big, carved chest. I think I'll send that over to sit in the hall at McCormick."

Our favorite story was this there was a living room with a fireplace, and it should have a painting over a fireplace. Of course! People said there should be a painting over the fireplace, and that Mrs. McCormick saw our note about it and that she just picked out a painting! "Well," we asked, "where is the painting?" "Well, it's coming." A couple of months went by. Fortunately, the painting is by a minor American artist. I don't know if it's still there or not, but it's of a life-

sized young lady in a formal gown. It had been shipped out to California to have more ruffles painted in her décolletage. Mrs. McCormick thought the original ones were a little too low-cut for a young ladies' living room! [LAUGHS]

BERNSTEIN: That's something.

ROSS: Yes. Mrs. McCormick married into a very well-to-do family.

BERNSTEIN: What were some of the biggest changes between living on Bay State Road and McCormick Hall?

ROSS: The first tower at McCormick had almost exclusively singles, and that was a very different sort of thing; we had just been in an old brownstone where the first floor was a public area, living room, dining room, and kitchen. They had refurbished the basement and some women lived in the basement. And then we had three floors of bedrooms. My roommate and I had shared a room. We measured it one time, and we looked at each other and we laughed. We said we were the only two who they could have put in here because we were not very tall. It was a narrow little closet door, a door to the room, a door that went to the house mother's room, where we put a chest—two chests of drawers, two desks, bunk beds, two-foot lockers. Everything had to be put away before you got dressed. It was funny. We were on the second floor. There was one other room for a bedroom that must have been a front parlor. And there were three in there until someone came in January and then there were four of them. Better arrangements on the third. And on the fourth floor, maybe just two rooms. As you went up it got messier. Nobody requested to live with a certain person or something or other. It was just, “Here are your room assignments.” Our floor was always tidy. You went to the next one and the covers were pulled up. Always I would tease people who lived on the top floor that they just threw the sheets in the general direction of the bed! [LAUGHS] That was the floor that would stay up all night because the general Institute requirements were more constrained then. It was two years of calculus, two years of physics, a year of chemistry, and two years of humanities. And then to compound it, every Friday morning the class sat at 9:00 a.m. for a test. It just was calculus, chemistry, physics, calculus, chemistry, physics--

BERNSTEIN: When you moved to McCormick, did you feel like you got closer as a group? Was it easier to get to know other students?

ROSS: Well, when we were in Bexley sophomore year, there were three of us in one apartment and, across the hall, two others, so we would see each other a good bit and meet downstairs in the dungeon laundry place. My former roommate was living across the hall. I ran into her and said, “You know, there's this issue [with my roommate]. And she said, “Oh, I got this issue, too.” We swapped the

roommates. We just went to her roommate and one of mine and said, “Next term, you're going to be living across the hall” [LAUGHS]. But no: in McCormick you just didn't see people that much.

We had one classmate who started at 15 and a half, so she just commuted in. She was still living with her parents.

BERNSTEIN: Wow—that's so young.

Could you tell me a little bit about the Cheney Room? [Margaret Cheney was a chemistry student of Ellen Swallow Richards. The already-planned reading room (3-310), founded in 1884 as an oasis for women students, was named for Cheney following her early death in 1882 while on a break from her studies at MIT.]

ROSS: Oh! Well, you know, Cheney Room goes all the way back to the other side of the river?

BERNSTEIN: Really?

ROSS: Yes. I didn't know this until not too long ago, but Margaret Cheney was a co-ed undergrad, and she died before she graduated. Her mother wanted to do something in honor of her. I think she gave some money for a while, but then when the school was moving over here, they had these buildings built. What the girl’s mother wanted was to have a suite of rooms that would just be for women students. There were no living quarters at all for women students then; you lived at home or with some relative if you were from out of town, or you had to find your own way, so she wanted someplace on campus.

The Cheney Room gets redesigned every so often, but the big kitchen was there, the piano was there, study carrels, showers, and particularly, when we were freshmen, even if we had wanted to, there really wasn't time to run back and forth over the river during the day. That was where you’d go and put your feet up, and you got to know a lot of the women in the classes ahead of you. Some graduate students we met in there, too. We had keys [LAUGHS]. We were [recently] talking about how you could make up a reasonable excuse and get somebody to sign a paper that says you needed to stay [there] overnight.

So the Cheney Room was really more where you saw people, even after McCormick opened. As for the dorm, the decision was made pretty quickly to build the second tower. Mrs. McCormick was very happy with the way things had gone, and was willing to put up the money for the second tower. But the Cheney Room was really where you crossed paths with people and knew folks.

BERNSTEIN: I was wondering if you could tell me a little bit about being in the same class with Margaret MacVicar.

ROSS: I can remember exactly when I met her, when I first saw her.

BERNSTEIN: Really?

ROSS: In our class, we had been corresponding with each other over the summer, and we each had been assigned a big sister to write to as well. I must have been on campus at one point, but anyway, somebody said, "MacVicar and somebody else, they're over at Bexley [Hall]. Let's go meet up and get acquainted." So we walked into this apartment at Bexley, and she was over by the front window. She was in the midst of telling this story about the confrontation—well, maybe that's too strong a word—that she had with the train conductor on the train from Detroit. It was about her barbells. At which point I thought, "What the hell have I gotten myself into? Who is this person?" [LAUGHS] Needless to say, within a week she's the president of 120 Bay State Road living group. You know? No surprise. No surprises there.

Note to Emma: The meeting described above was just before our freshman year started. I'm not sure how you and veered off into the following exchange.

BERNSTEIN: Why were you meeting her in Bexley?

ROSS: Actually, it was our sophomore year. We were at Bexley and she was living somewhere else.

BERNSTEIN: OK.

ROSS: Three or four of them [women students] had apartments somewhere in Cambridge. I think the story is she fell in love with a girl in the class behind us. So they went, they and a couple others went to rent a place and live. She was course 8, and I was course 18, so I'd see her from time to time.

There's always, what is it, Tech Show [an annual student variety show]. All of the co-eds would all get together to do something for that evening—a few skits or whatever, write strange songs and so on. We were saying, "But there's somebody that you want to try and keep up with, somebody that's setting a pace." She and my classmate here in town, my friend here in town, Harriet Fell (SB Mathematics '64 and PhD Mathematics '69), they're the two [Harriet and Scottie MacVicar] that finished in three years.

BERNSTEIN: OK.

ROSS: Of course, this is the thing about MIT. I always tell students when I would be doing application interviews that there will always be somebody who's better than whatever it is you do. Always. And the only thing I can tell you is, get over it! [LAUGHS]

If it was a young man I was interviewing, I might also say that the boys seem to have a little more difficulty dealing with that than the girls did. In fact, I think somebody mentioned something about it this morning in a session about TAs; they didn't know how to deal with somebody who had A's all of their lives and were handing him an F on his first quiz.

BERNSTEIN: Yep.

ROSS: But it did mean that because Scottie [Margaret MacVicar's nickname] and Harriet were moving along quickly, they knew a lot of people, so a lot of information came back to the rest of us. You know, all the stuff about inner workings, the things that aren't written down on paper.

BERNSTEIN: Right.

ROSS: Without that [guidance] I wouldn't have known about-- I mean, I've got two or three courses on my transcript that I never took. Someone would come in and say, "Oh, look, we're doing the theoretical version of this course. And in the applied version, the professor just said they'll have an open-book final. All we have to do is get some 3x5 cards and borrow somebody's book."

BERNSTEIN: Right.

ROSS: You've got to send your petition to the petition window and get it back [LAUGHS]. There was very much an atmosphere of, and I suspect it still will be-- The Institute says and means that rules are made to be broken, so make us a good case.

There was somebody who was one or two classes ahead of me. She passed 8.01 [Classical Mechanics], flat out failed 8.02 [Electricity and Magnetism]. So the next fall, she took 8.02 and 8.03. She got something like an A in 8.03 [Vibrations and Waves], but failed 8.02 again. She took the spring term off. Then maybe the third time of failing 8.02, she goes to the petition office and she fills out the form. I love it, it's just a blank form, you know? You could write whatever you want on there. She says, "The only way I'm going to get a degree from this school is if you waive the requirement of 8.02 for me. Tell me what else you would like for me to take or do. I will be more than happy to try. But I realize at this point, and you can tell from my record, I am not going to pass 8.02." And, of

course, they said, “That's entirely reasonable. At this point you've convinced yourself you never will. So take this, do that.” Which is how it should be.

BERNSTEIN: That's very cool.

Can you talk a bit about the general atmosphere in class? For example, how many women there were, and whether women were evenly distributed among majors?

ROSS: Oh! Let's say that the Institute requirements were fairly straightforward. There was not that much AP credit going around. So 90% of the class, probably more, were all together. They cut us into sections of about 35 people in a section. And then they doled the women out one to a section until they ran out of us! [LAUGHS]

BERNSTEIN: That's very funny.

ROSS: So you went every class (well, lecture hall), and every day you would be the only-- You go to 10-250, you know, or 21-100 down there-- You know, everybody's there. But any section meetings, any of the smaller classes, all your humanities courses, it'd be you [as the only female student], which was OK. It was probably OK for most of us.

My friends in high school were guys, so that didn't worry me. I know some people who said they felt that they weren't called on as much or asked the same kinds of things as the guys in the class were. I didn't have that feeling; I don't know. It’s one of those things. And I certainly was not above shaking my little blond curls and saying, “Oh!” They tell me that since I was about three or four, I was going to do whatever I wanted to do. I have vague memories of when I was really small that it didn't take much to get the tall people to do what you wanted them to do. You didn't do it by flinging yourself on the floor and kicking and screaming; there were better ways to do it than that.

BERNSTEIN: In total, how many women were in your class?

ROSS: Our best count is like counting fish in a barrel: about 25 out of a class of 900 to 925.

BERNSTEIN: So different than today.

ROSS: There were maybe 17 or 18 of us—it's hard to count close, somebody came in in January—at [the dorm on] Bay State Road. Two women lived in International House, not that they were international, but that's where they ended up. And someone lived at home because she was 15 and a half [LAUGHS].

BERNSTEIN: Is there anything else you want to touch on about your MIT experience before we talk a little bit about what came after?

ROSS: No, it was great. It was a lot of work, but it was great fun. It was absolutely the right school for me. Plus, with a degree from MIT, I could do what I wanted to do.

Oh, something else I remember. There came a time—this must have been junior year—when I was taking Russian and I was taking three or four math classes. I said, "You know, I need something else." So I went over to building 2. I took three terms of architectural history. It was really fun, because it was physically almost as far as you can get from the math department. It was really interesting stuff. And I didn't belong to them! They couldn't do anything to me. In Architecture, they do these projects, they have these juries. We'd be sitting in class and the guy would come in and he would say, "Oh, Jackson! That really was the worst that we've seen in years!" You know, and poor Jackson. Well, as I said, they couldn't do anything to me! [LAUGHS]

The only time the professor ever spoke to me directly (well, it wasn't quite directly to me), was after a test. He came in and took great delight in pointing out to them that the highest grade on that test was mine. "And she doesn't even [major in this]" [LAUGHS]. It was very relaxing for me.

BERNSTEIN: I've never heard anyone say an architecture class was relaxing!

ROSS: Well, architectural history. It was great. I had to memorize stuff, but it was fun. That was good. I also fenced with my roommate and roamed all over Boston.

BERNSTEIN: After you graduated from MIT, what was your thought process like about what to do next?

ROSS: Just as when I came in, I had no plans. When I left, I didn't want to stay at home. I investigated graduate school here, but I didn't think I really wanted to because I had been taking a bunch of graduate courses. I decided I really didn't want to do that.

I finished in February, or in January. By June I did a couple interviews. I did an IBM interview. I was like, "No, this is not what I want to be doing. I don't know what I want, but this isn't it." Coming up on June, I found out that Harvard had a 12-month intern program master's degree in teaching. They don't teach teachers anymore. They teach principals and superintendents and stuff like that. They go through these phases every so often and they'll teach teachers.

I went down there and for the summer we taught—or we sort of taught—out at a junior high out in Newton [Massachusetts] or something. And then interns

split a full-time teaching position. A guy took the first half of the year and I took the second half. The other half of the year, when you're not teaching, you're supposed to be doing your classes.

Math required two subject courses. If you were going to be a history teacher, there was just one subject course you had to take: history. I went to see the guy who was in charge of that math. He looked at my transcript and he said, “Look, just buy the book and read it.” This was his book. I said, “I will!” And I may someday. It's still sitting on my shelf.

Since I still had time slots, I cross-registered back down here [at MIT] and went back to some of the professors I'd been working with before. Then, from January through June, I taught five classes on my own in Newton Centre. I learned early that if I wanted to keep somebody after school, I needed to make an appointment, which seemed to me to defeat the purpose of the whole thing. Then my husband got an offer to move to Atlanta to work. And I said, “Well, that's fine.” So I sent out some feelers for teaching.

The nice thing about the Harvard program was it gave me one of those certificates that most of the states would just accept without you having to do any of their stuff. I could have gotten a job at a two-year college that was just opening. It sounded very interesting except I got the map out and realized I couldn’t do that: I don't know how to drive! [LAUGHS] So I taught high school for a couple of years. The City of Atlanta School Board and I signed contracts with each other sight unseen on either side. We had no idea what we were getting into. I liked high school; it was fine. It was a good high school, a good principal, which is the key. But I had a small child. I was worn out. The obvious thing was to go to school because that's easy. Right?

BERNSTEIN: What was it like to be a graduate student and the mother of a young child?

ROSS: What I remember most about the year as a grad student at Harvard with a small child is a blur. I was probably half asleep for the whole time. There were no accommodations for new parents that I knew of. After I finished, I thought I was going to get another master’s degree. By then, my son would be in school and whatever. But fortunately, when I got there [at Emory University], they had a bunch of grads that had just plumped up really fast—bunch of graduate students, including three or four that were about to finish. It was something like six, eight people in an office. But the good part of that was, they'd say, “OK, this is how things work here.” One of the things was you didn't decide whether you were going to get a master's degree or a doctorate; the department did. And they didn't flat out tell you. So you could spend, if you weren't too bright, years there and leave with nothing.

BERNSTEIN: Right.

ROSS: So I thought, “OK. All right. At least I know.”

When the time came, I went to the person who handled master’s people in my area, and asked for a problem. She shuffled around on the desk. “Maybe come to see me next week.” I went home and kicked my furniture.

After a while I thought, “Well, you know, I'm three years in or whatever here. Go to see the person who advised the doctoral students in my area. I said I was looking for a good problem to work on. Oh, well, “Yeah! Here you go.” I went home and kicked the furniture some more because I know what that meant. [LAUGHS] I did finish. That was fine, but it was enough to know that I didn't want to teach at a research place. That was too isolating.

BERNSTEIN: Then what did you do?

ROSS: Before I finished there [earning a PhD in Mathematics in 1976], I got a part-time job teaching some night classes at a two-year school nearby and worked my way into a full-time job. That turned out to be very good. It was a very interesting mix of students. My department had a strong relationship with Georgia Tech, so we got a lot of international students who were well prepared in math.

And Georgia Tech said, “Take all the math, chemistry, physics you can, and then transfer down.” Georgia Tech is a public institution that is, at that time, the only engineering school in the state. They pretty much had to take anyone who was qualified to the extent that they could cram them in. But it also meant that it was the old story of, you know, “Look right and left because in two years one of those people is going to be gone.” They just never had the money from the state to build up the upper level courses to justify that.

The international students were very good, so even though it was a two-year school, we taught a full calculus sequence in two courses beyond that. And it turned out to be a very innovative department in terms of technology adoption, changing our teaching styles. I was fortunate to have a dean who didn't like me at all. The punishment was that she wouldn't put me on any committees, because that was something you need for promotion and tenure. But that's fine, that left me to do work with the professional math organizations.

For some reason, at my school they were very good about sending people to meetings, to conferences. We went five or six years where I think the only weekend in November we'd be home would be Thanksgiving. The organizations we were most working with, they all had their conferences one after another. But that was fine; otherwise, I wouldn't have gotten out to see all those people.

BERNSTEIN: When did you meet your husband?

ROSS: In that February of my sophomore year, when I transferred to that tiny little high school in Smyrna, Tennessee. We had, I think, four classes together, including Latin II, in the fifth-grade classroom over lunch [LAUGHS] He and his best friend were always cutting up in our biology class. I would be falling off my lab stool laughing so hard. But we did not date until February of our senior year.

BERNSTEIN: Did he also come to a school in Cambridge?

ROSS: That's the great story. He had double appointments at the Air Force Academy, which he chose to decline. His father wasn't particularly happy about that. The Air Force was sending his father to college to get a degree, and they were going to Washington State, on the extreme eastern side of Washington. So his family, who had made no plans for sending this kid to school, said, "Oh, well you can come with us. And they say if you go to Washington State, you won't have to pay out-of-state tuition." You know, continue living at home and everything. So off he went.

I come up here [to Cambridge], and he called me every week. From there, he came, spent 48 hours on the Greyhound bus to get from Washington to Nashville--

BERNSTEIN: Oh, wow.

ROSS: --spent 24 hours and 48 hours to go back over Christmas. So by February we're thinking, "This is really dumb."

BERNSTEIN: Right.

ROSS: I picked my school; he didn't pick his. He wanted to study architecture. Architectural engineering was as close as he could get there, so we said, "Well, you know, we're 18. We know everything. We can fix this. We can do this."

You always hear of the old boy network. Well, there are old girl networks as well. In March or April I went to some evening alumnae function. Women used to graduate kind of in clumps. There's a time when there were mostly chemists, and then there were physicists, and in a chunk of the 1920s it was architects. So I knew all I had to do was find me an architect with a "20" on her [LAUGHS]. I did find one. I sidled up to her and told her this sad, pitiful story. I didn't cry. I didn't have to cry, I just told his whole sad story, and how [my future husband] really wanted to be an architect, but, you know, there are no architects around there and so on. So she says, "Oh, well, that's no problem. You just tell him to come here in the fall and I'll give him a job." I said, "OK, fine." So he talked the State of Tennessee into expanding the job he used to do after school in high

school to a full-time summer job. And then he came up and went to work. Little did I know, of course, I had picked a large and prestigious Boston firm. They did most of the restoration work at Williamsburg in the 30s.

He went to Boston Architectural Center in the evenings. It was really very good because it was a big firm, but he realized that 40-year-old licensed architects at this firm could spend their day drawing newel posts. Maybe it's not as glamorous as he thought it would be to be an architect [LAUGHS]. So he took the experience he had had in Tennessee with the state and picked up the Yellow Pages, found the first company in the larger print. He called them up every week until they finally said, “Oh, my God! All right, all right! Come over here.” And they hired him [LAUGHS].

BERNSTEIN: That's very cool.

ROSS: That's the reason I only spent one term at McCormick because we got married over Christmas break--

BERNSTEIN: I see.

ROSS: --that year.

BERNSTEIN: Wow [LAUGHS].

I wanted to ask what project you worked on for your PhD.

ROSS: Oh, that's a good question. Well, I'm in algebra; I was trained as an algebraist. I worked with modules over discrete valuation rings.

BERNSTEIN: That’s great.

While you were at the two-year college, what was the interaction with the faculty like? Were there other women teaching there by that point, or was that uncommon?

ROSS: Oh, it was fun! It was fun. When I went, one woman had been there for a couple years and another one came in the year before me. By the time we got done, we were the majority. But you have to understand, this school belonged to, was started by, a county school board. So until about three years before I got there, women couldn't wear trousers--

BERNSTEIN: Oh, wow!

ROSS: --to teach in [LAUGHS]. But yes, there were three of us; when I came full-time, there were three of us. And the guys were very, very nice to us.

BERNSTEIN: Great. So how long were you at DeKalb Community College?

ROSS: I stayed there 25 years.

By the time I got there, shortly after I got there, we had three campuses. So later we split off the tech school part of it, and the college stayed focused on transfer programs and RN nurses. Then we couldn't financially maintain that any longer, so it went to the University System of Georgia.

Georgia's unusual. Unlike California, all of the public institutions of higher learning in Georgia belong to one of two boards of regents. The tech schools have their own board, and everybody else—from the two-year schools to Georgia Tech, University of Georgia, the Medical School of Georgia—all belong to one board of regents.

BERNSTEIN: Oh, wow.

ROSS: In fact, shortly after we went into the university system, the system was reorganized. We renamed and renumbered all of the lower-level courses so they had the same names, numbers, and basically the same curriculum at every institute. So there were never the problems that two-year schools often have of trying to get somebody to take their credit. For example, English 1101 was the same everywhere.

BERNSTEIN: Right.

ROSS: That was good. About 10 years ago, the university system started doing some consolidation. Four years ago or so, they took what was my school, after several name changes, and it is a college of Georgia State University, which is the big, downtown Atlanta school. If someone says, “Oh, where did you teach?” I say, “Well, how old are you? Which name where you thinking of?”

Well, there we were. Very flexible hours. We would teach you at 7:00 in the morning. We would teach you at 9:30 at night. We would teach you on Saturday. And prices are reasonable. Everybody knew us and had some connection in one way or another with the place. And it really did do a good job.

BERNSTEIN: It sounds like a great place to be.

ROSS: It was! It was. And as I say, I ended up in a good department. We adopted the graphing calculators, computers and computer software packages very early. We did a lot of workshops, training sessions, that kind of stuff. So it was exciting to be around.

But everyone wants to be a computer science major, so one day we got a call from Georgia Tech, saying “We're being overrun with these computer science wannabes. We need you to teach some of these computer science courses.”

And we said, “Well, that would be fine. But we don’t know any computer science” They said, “We know. We've thought about that! We got it figured out! We're going to sign you up for these courses, and we'll give you full access to the system. The only time you have to come to campus is to take the final exam.” It started out with almost the whole department doing it. And we started mimicking their beginning courses.

We had a little concern, that we only knew one flavor of CS. That we really should do something else. So I went back to Emory, where my doctorate came from. At Emory, it's a math-computer science department. I came down to take a couple of classes from them at ridiculous rates. But I needed to be admitted again. “Oh, well, you'll have to take the GRE. You'll have to--" I said, “I'm not doing that. Do you not understand? I'm going back to the department that gave me the PhD!” [LAUGHS]. In the end, I paid one dollar to have, as it turned out, the wife of one of my other colleagues who worked for the administration at Emory, pick up my transcript from one end of the hall and walk it down to the other, from records down to admissions. Trust me, I haven't done anything else since then. And I had to get a tetanus shot! [LAUGHS]

So they let me back in. I took one class: assembly language. Oh, my lord. At any rate, the Sloan Foundation decided on the national level that it wanted to do something about this problem. And their scheme was, this bright idea. They said, “Oh, wait. We could retrain mathematicians to teach computer science. They must know something. You know, they must be able to think. We'll take mathematicians and we'll teach them computer science.”

So I put in an application for that. Sloan came through with the money, so Sloan paid for both years for me. I spent two summers in upstate New York, the North Country, 30 miles from the Canadian border [LAUGHS]. Well, it's a whole other world up there. I spent two summers up there. “They said, basically, “We're not giving you any credit or whatever like that, but you can tell people you basically have a master's in computer science. It was cool. And Mike Sipser [Michael Sipser, a theoretical computer scientist who joined the MIT faculty in 1980], who's here now, he was a chairman of the math department and he’s currently the Dean of Science.

BERNSTEIN: Right.

ROSS: He was one of my instructors.

BERNSTEIN: That's very cool!

ROSS: One of the very best teachers I've ever had in my life. The guy was just amazing. What happened with that was I had better sense than to teach Comp Sci 101.

For me it was, come to me when you know how to run the machine, and I'll teach you something else. Maybe I'll do data structures.

I was using a book for discrete math, “Discrete Mathematical Structures” by Kolmann and Busby, that I really liked, and I introduced myself to the author at one of the national meetings. The next year, I said to him, “They're giving me grief about the copyright date on your book, and I know from last year's conversation that you're focusing on redoing your calculus book. Do you have any recommendations for what I might use in place of yours if I can't?” “Oh,” he says, “I've got an idea!” He's got my arm, and the next thing he's saying is, “George, George! I've found the co-author for the third edition! Hello!” And so, yes. Enter George Lobell, his editor, and he, I think, looks as startled as I do. There was already another co-author. And I said, “All right. Look, I really love the book. I will go home and I will revise the first three chapters for you and send them back, and then you can see what you think. Because we really don't need something that looks like a patchwork quilt with three people writing in three different voices.” Anyway. I’m still collecting some royalties off that. We ended up going through six editions [LAUGHS], and we sold it to the Chinese and Koreans. I think the Spanish ones all go to Mexico.

BERNSTEIN: Wow.

BERNSTEIN: That’s amazing.

Well, I want to thank you very much for taking time for this.

ROSS: You’re very welcome.