

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

Massachusetts Institute of Technology, Institute Archives and Special Collections

Cheryl Dawson – class of 1967

Interviewed by Eden Solomon, Class of 2020

June 11, 2017

Margaret MacVicar Memorial AMITA Oral History Project

Cheryl Ann (Klitzke) Dawson [SB Mathematics 1967] was interviewed by Eden Solomon [Computer Science, class of 2020] at MIT on June 11, 2017. Dawson, who lives in York, Pennsylvania, was on campus for her 50th class reunion.

A mathematician and editor, Dawson worked for 20-plus years on The Gödel Editorial Project (sponsored by the National Science Foundation and the Sloan Foundation, centered at Stanford University), eventually serving as managing editor. Publication of "The Collected Works of Kurt Gödel," in five volumes, is considered a major contribution to the literature on one of history's greatest logicians. Having studied German at MIT, part of Dawson's work on the project involved learning and then transcribing obsolete German shorthand used by Gödel, known as Gabelsberger shorthand. In so doing, she became one of the leading experts on that early 20th century German academic notation method and made a significant contribution to what is now considered a benchmark resource on Gödel.

SOLOMON: Could you tell me a little about where you're from and what your family was like?

DAWSON: I come from western Kansas. My father was a wheat farmer, among other things. He was quite the jack-of-all-trades.

I was valedictorian of my high school class. It was a bit of a shock to come here [MIT] and to realize that I was not very unique in that respect, because at least half the class were valedictorians.

We talked at this reunion [the class of 1967's 50th reunion, held during the Institute's 2017 commencement weekend] a good deal about how our parents prepared us for coming to MIT. My father was very interested in things technical and mechanical – electrical and mechanical. And I had no brothers, so I think that that's why I benefited from his urge to share his knowledge about these things. I'm also sure that if I hadn't had a bent that way, I wouldn't have reacted to it – you know, I wouldn't have absorbed it the way I did. But it was nurturing, in a way.

SOLOMON: Were there any teachers or classes in high school that really shaped the way you--

DAWSON: There was one particular teacher who seemed to have a great deal of faith in me. She was not a science teacher at all, but she recognized and realized that I was very interested in those fields, and that I was good at those things. Her son

had gone to MIT about three years before, so he was a senior as I was getting ready to enter. She was the one who pulled me aside and said, "I think you should apply to MIT." I would never have thought of doing so.

I knew of MIT. I had been in the National Science Foundation camp. The National Science Foundation sponsored a lot of two-week to six-week sessions for young people in the sciences, and I'd been to one of these. We used the PSSC physics book, the Physical Sciences Study Committee physics book, and that was developed by people here at MIT, so I was very aware of the place. I never thought there was any chance of my going here.

My teacher told me that MIT was looking for bright young people that they felt would make a difference in the world, and that she felt I was one of those and I should apply. And so I did.

We had to drive four hours for the [MIT] Educational Council interview, because we lived in way out in western Kansas and the closest educational counselor was in Wichita. But my father had saved for college since I was maybe two years old. My father insisted, "Yes, fine, we will drive you to Wichita."

And I remember that interviewer, among other things. He asked me, "How do you feel you're going to be in competition with a man?" And my answer was, "I don't know, because in our high school, the girls take care of the academics and the guys are the athletes." I don't know if he liked that answer or what, but I think the very fact that we were willing to drive so far indicated to him that we were serious about this. And so yes, it was that particular teacher who influenced me to do that.

My science teachers in high school were not particularly good. They were adequate, but not particularly good. But I think it was the National Science Foundation camp and the interest that teacher who recognized that interest and talent.

It turns out I was the second from my school to go to MIT [and the first female student].

SOLOMON: That's amazing. What made you want to go to college? Was there ever any question of whether or not you'd go?

DAWSON: No, there was not. My father had wanted badly to go to college, and had been unable to afford it. I think that's one reason why he started saving for me to go to college practically the minute I was born. And a side comment might be that it didn't matter whether I was male or female: it was assumed I would be going to college – that was, of course, if I wanted to.

My school was pretty well assuming that any of the brighter young people in my class would be going to college. And my high school class did have an excellent percentage of people going to college, not that I feel that everyone should. But yes, I think it was always in my future that I would be going to college to study something. I didn't know what until I got into probably junior high.

SOLOMON: What kind of things did you want to do as a child? Were your childhood goals different from what you actually ended up doing?

DAWSON: Very much so. I had no idea that I might become a mathematician, which is what I ended up doing, or going into science and technology. When I was probably between six and nine or something like that, I thought I wanted to be an artist. I loved drawing. I loved colors. And I thought that would just be a really cool thing to be an artist. But there was no such training in my area.

Also at that time, about the time that my group of people hit high school, it was just before that [that] the Sputnik satellite went up and America realized that it was way behind in the space race. The nation was looking for bright young people who had analytical skills to go into math and science, and engineering. So those National Science Foundation camps were intended to encourage and identify those people who would do that. In a sense, at that time I think we felt it was almost a patriotic duty to go into those areas. Then, once we got on the moon, that money sort of dried up. But that's American politics.

SOLOMON: You've already mentioned that at your high school, it wasn't really unusual for women to apply to colleges.

DAWSON: No, it was not. As I said, in my particular high school, in my particular class, and classes around this year or two around us, the young women were actually valedictorians, salutatorians and more academic – we achieving more than most of the guys. There were very few guys that could give several of us in my high school class much competition. So I arrived here expecting to meet a lot of bright young people, but not really caring too much about whether they were male or female.

However, it was a great relief to walk into McCormick Hall and realize that here was a group of young women that I could talk with and that would not think me an intellectual snob because I wanted to talk about things that we would talk about. So that was one of the wonderful things about being here.

SOLOMON: I heard that your year was the first time that McCormick was open.

DAWSON: That's right. That's right. We were the first freshman class to live in McCormick Hall. So we were the first to have all four years in McCormick Hall. The year

before us, the freshmen had been housed in a brownstone over on Bay State Road [across the river, in Boston]. And then they required all the women who were not already married and living in apartments elsewhere to live in McCormick Hall.

SOLOMON: To kind of fill it up?

DAWSON: They needed to fill it up, yes. And so we did benefit from that tremendously. We were well aware of the rigors of a Boston winter by the end of the first winter! And we knew that we had been relieved of the time and the physical hardship of walking across the Harvard Bridge to get to classes. However, that was one reason for the Margaret Cheney Room. Do you know Margaret Cheney Room? [The room, in Building 3, was established in 1882 for the use of all fully admitted women students.]

SOLOMON: Yeah, it's in--

DAWSON: It's now, I think, mostly for graduate students.

SOLOMON: It's still available to use.

DAWSON: It's still available. But at that time, it was being used largely by graduate students. But there were a number of us who spent hours in the middle of the day in the Cheney Room talking to the older coeds. And that was really very valuable.

SOLOMON: By coeds, you mean the women?

DAWSON: That's right. Maybe I should simply establish that piece of terminology. The women at MIT at that time were referred to as 'Tech coeds.' And there was a good deal of – I don't know if it was really joking – there was this editorial that came out [in *The Tech*] while we were here [in 1965 or 1966]. If I had known who did that, he'd have been on my blacklist forever, but the editorial concluded with something like, "A woman becomes much less of a woman when she starts becoming a scientist." And there was this half joke, half denigrating remark that there were three sexes: there were "men, women and 'Tech coeds.'"

I don't think we were particularly insulted by it, because we had our goals. In a sense, I suppose, it made us unique. But, yes. The women at that time were referred to as the coeds. I don't know how long that lasted. I would guess into the '70s or '80s. I don't know.

SOLOMON: So you said you lived in McCormick for--

DAWSON: I lived in McCormick for three years. And by the time we were juniors, many of us were lobbying – not me personally – but many of the women were lobbying to be allowed to move out and live in apartments. The dorm was getting so that it was filling up, because there were many more women each year. And we were lobbying to be allowed at least to go out of the dorm and live in apartments. All the dorms were single-sex at that point.

I personally didn't want to move out and live in an apartment, because I thought it was quite convenient to live in McCormick. But I certainly wanted to support the right of those who wanted to do so. By now, we're pretty much the age of majority, and we should be able to do that. And they just weren't about to have it.

SOLOMON: So it was mandatory--

DAWSON: It was mandatory for all women who were not married to live in the dormitory. If you wanted to be a student here, you did that. By the time our senior year came along, they had admitted enough women that the dormitory was going to be way overcrowded. And so as people moved out of Westgate Apartments – the married student housing, Westgate Apartments – they emptied out the bottom two floors and a bunch of us moved over there for a senior year. We had to get out of the meal contract.

And at first, they were going to have us try to walk back to McCormick Hall to get our meals. You know how far away that is. And we said on a winter Sunday morning in Boston, "You're going to say we have to walk back to McCormick? Because it's not going to happen!" So we finally stood up on our hind legs and said, "OK. You're going to have to choose who goes over there, because we're not applying unless we get out of the meal contract." And I guess that smacked enough of coercion that they decided, "OK. We'll let you out of the meal contract."

SOLOMON: Getting out of the meal contract is still a problem today. How was your freshman year at MIT?

DAWSON: My freshman year, first semester was really tough, very tough. I had never had that much competition before. I wasn't coming from a place like Bronx Science or Brooklyn Polytech. I was coming from a very small school, where I'd been the top student. And the pace at which information comes was a shock, too. And I was feeling pretty homesick by the time I went home at Christmas. And I had a long talk with my parents, especially my father. And he said, "Well, you're going to have to decide. Do you want to be a little duck in the big pond or a big duck in a little pond? And that's your choice. That's what you can do."

And I thought about it for about a microsecond. And I thought to myself, "But the big pond is so much more interesting." And so I think I just needed to go home, know that my family was still there, know that they still loved me, that they still had faith in me. And by the time I came back, I was OK.

SOLOMON: So spring semester went better than fall?

DAWSON: Spring semester was easier psychologically--

SOLOMON: Not so much of a shock?

DAWSON: Not so much of a shock. You knew what you were. You knew what to expect. But I think it was also just reconnecting with home and family, and knowing that they still believed in me. And that it was perfectly OK with them if I didn't get A's at MIT. That I was still-- That they were still proud of me. And that helped tremendously for me to adjust. And after that, things were not nearly so tough. I mean, there were times, of course, but--

SOLOMON: How did your experience at MIT change after freshman year as you developed a major?

DAWSON: Of course, our freshman year was pretty programed. You only had one elective each semester. And the rest was all the standard courses.

SOLOMON: Were they chosen for you?

DAWSON: Oh, yes. You had to take the freshman humanities classes. You had to take chemistry. You had to take physics. And you had to take calculus. And then you had a freshman elective. My first freshman elective was number theory course from the mathematics department. My second freshman elective was a course on the emerging nations, I think with Ithiel de Sola Pool [founder and one time chair of MIT's Political Science Department; a communications theorist who was an authority on the social impact of computers and mass media], which was very, very interesting. I really enjoyed that class, even though I had nothing to do with political science after that. But I still enjoyed that class tremendously.

By your sophomore year, you began to have choices. And so that you did start to narrow things down a little bit. At the end of my sophomore year, I was looking at picking my courses for the junior year. And I had said I wanted to be a physics major. I was looking at my courses and realizing that I was really dreading this incredibly rigorous physics lab. It was called 809 Lab. I don't know if you still have that lab or not.

SOLOMON: I am not a physics major, so maybe. I still do hear about to physics labs.

DAWSON: The physics labs were, I mean-- The most brilliant people I knew stayed up all night writing up their lab reports, every time they did a big experiment. I just wasn't at all sure I really wanted to do that. I looked at my schedule. I was trying to take math courses that looked interesting. And finally I said, "You know, this does not look like I want to be a physics major. This looks like I want to be a math major." And so I switched. But I had already taken some of the courses that were required for physics majors, and that pattern went on. By the time I graduated here, I had so many extraneous credits that it was really kind of ridiculous.

SOLOMON: How was the gender ratio in your major as compared to MIT in general?

DAWSON: There were, I believe, more women in the math department than in many of the departments. I just heard an interesting talk as part of our reunion comparing the majors. And as far as I remember, there were physics, mathematics and biology were the three major courses that people went into. Mathematics was probably more acceptable for women to go into at that time. And I think physics was probably the next most kind of acceptable for women to study. The Biology Department, as I remember, was not particularly known for being particularly hospitable to women. But a lot of women did take biology.

SOLOMON: That's interesting, because now biology is one of the courses that women take more than men, I believe.

DAWSON: I believe that's right. And isn't it also required?

SOLOMON: We are required to take one semester of biology now. Our freshman year is not quite as strictly rigid as it used to be, but we have certain required courses we have to take before we graduate. Most people take them during freshman year.

DAWSON: I believe they've also reduced the amount of physics that you have to take.

SOLOMON: We have to take two physics classes.

DAWSON: We had to take four.

SOLOMON: Oh, wow!

DAWSON: That was one of the places where you had a choice – talk about extraneous credits. In your sophomore year, there was a physics course that was intended for physics majors, and another course that was a little broader and more general but covered a bit more.

SOLOMON: And both would fulfill the requirements.

DAWSON: They both of them would fulfill the Institute requirements, the general requirements. But the physics department's requirements would have been for you to take the one for physics majors, which meant that I also took electrical engineering course. I also took one extra applied math course. And then by the time I decided I was not a physics major, they said, "Oh, but if you took 8031 and 401, you have to take an 805 level, because you didn't get as much as you would have had in the [80]3 and 804 sequence." (At that time, two years of physics were required of everyone, but physics majors had to take a different sequence from non-physics majors. If you switched, you had to take a further course designed for such aberrant students.)

So, all of those were not required for my math major. As I said, extraneous credits galore in my record! So, yes, we had to take more physics, but we did not have to take biology at all. Biology was not at that point the fascinating microbiology that it is now. That was kind of just developing, I think.

SOLOMON: We have, I believe, five options of slightly different bio classes we can take. They all cover general topics. And then they have like specialization. Some are genetics, some are ecology and things like that.

DAWSON: Oh, nice.

SOLOMON: So we have to take two semesters of calculus, two semesters of physics, one semester of chemistry, one semester of bio, and then humanities courses.

DAWSON: But we also had to take, we only had to take two chemistry courses. But we also had to take four semesters of mathematics.

SOLOMON: Even the chemistry is more than we do now – we have to take only one chemistry course.

DAWSON: But there's so much else out there, though, that I'm kind of glad they flex with the needs at the moment, because bio is obviously extremely important now. And I think it's very important that people understand that the biology courses, yeah.

SOLOMON: You've mentioned that gender has impacted your experience at MIT.

DAWSON: In some ways. I was so naive that I probably thought it was just me. We [at our 50th reunion] were just talking about this at McCormick Hall. A lot of times, I think we just thought it was just us, just individually us. I think there probably were professors who didn't think that women could do it. But I never really ran into that overtly. My guess would be that there was probably some downplaying of abilities, but it was hard to detect. You couldn't really see that.

Now, when I got into grad school, I think the University of Michigan must have been under some pressure to equalize the roles of women. And the chairman of the department, when they came into the grad student lounge and said, "Cheryl, do you feel that you've been discriminated against as a woman, or do you have trouble dealing with the fact that this is a predominantly male field?" I think that was the way he put it. And I looked at him and I said, "Look, you're talking to a woman who graduated from MIT. I think you better ask some of the other women in this grad class," because I did not feel particularly that I was having problems because I was a woman and they were guys.

SOLOMON: That's just in terms of your abilities as a mathematician.

DAWSON: Yeah, that's right. Yeah.

SOLOMON: So, at MIT in particular you didn't really face any challenges because you were a woman?

DAWSON: If I did, I didn't recognize it. Now, I think there were women who did. And I think there were areas in which there were some problems. And it would be better for people you interview that had those to tell you what they were. But I heard in the dorm [at the 2017 reunion, but also while a student] other women feeling that they were being put down because they were women.

SOLOMON: You did say your particular department was more accepting of women?

DAWSON: I think the Mathematics Department was more accepting, and that it was OK for women to study mathematics up to a certain level. By the time you got into grad school you began to feel a little bit more. I think that now it's at the faculty level, so the glass ceiling is still there. I think that we helped to push it up somewhat, and the women who followed us from here have pushed it further. But it's still there.

SOLOMON: Try to keep going.

DAWSON: Yeah. So I'm hoping the next generation pushes a little further.

SOLOMON: Were there any classes or professors or experiences that were particularly memorable, for better or worse?

DAWSON: My chemistry classes were pretty darn boring, frankly, and I'd always enjoyed chemistry in high school. At the time, they were very behind the times in chemistry, so I found them really quite boring. I don't remember having classes that I found that I felt were really bad.

There were a few differential equations-- I had a TA that was not very good. He was probably under extreme pressure himself, because he was a graduate student here. I just don't think he prepared well, and I don't think he had a natural ability to impart the information.

There was a mathematical analysis class-- My first mathematical analysis class was really frustrating. Every counter example we ever got came because the man had messed up the proof. "Oh, that doesn't work," he said, "Let me show you why ... OK, scratch out that part of your notes. That didn't work, OK?"

SOLOMON: Maybe wait after he realizes he made a mistake to start writing the notes?

DAWSON: Yeah. You never knew whether the proof was going to be good or not until you'd written it down. And that class-- I learned as much probably by talking with my then-boyfriend [and future husband], who was fascinated by this particular area of mathematics, and I never figured out why. And when I didn't understand something that Professor Ray [Daniel Ray, Mathematics Department 1957-1979] had been talking about, I'd say, "Hey, John. What's this all about?"

[John Dawson, SB Mathematics 1966, attended MIT as a National Merit Scholar, and is currently Professor of Mathematics Emeritus, Pennsylvania State University. Dawson is considered an authority on the life and work of Kurt Gödel, the Austrian-American logician, mathematician and philosopher best known for Gödel's theorem, a hallmark of modern mathematics, having catalogued Gödel's papers at Princeton's Institute for Advanced Study and having served as co-editor of Gödel's Collected Works. He is a former co-Editor-in-Chief of the journal *History and Philosophy of Logic*.]

And if I may digress a moment, I think one of the wonderful things about MIT is the peer group.

SOLOMON: I agree.

DAWSON: I had gotten shanghaied into teaching some flute lessons to some people, some young women in the area. And when they're preparing for college, I tell them it's not just the courses, it's not just the professors; one of the places you learn the most and grow the most is in contact with your peers at the university. And that's one of the wonderful things about MIT. The respect that you receive from the other students, just because you could be admitted to MIT, is wonderful – and ego-building, in a way. So I guess I never felt put down, because I felt that I was being respected by my peers.

SOLOMON: You had already gotten in.

DAWSON: I'd already gotten in. And that was adequate to bring the respect from your fellow students. We're talking about the gender problems and so forth. One of the reasons I think the guys had to respect women, the coeds, even if grudgingly, was that our entering scores were higher than theirs on the SATs, so they couldn't really put it down on the intellectual grounds. I don't think they tried very much. Occasionally, you'd run into one of these guys. I'd just ignore them.

They would put us down on the grounds of the editorial I just mentioned, of not being fully female. Well, what does that mean in the first place? And so, that was one of the wonderful things about MIT was being respected by your peer group, and everything you learned from your peer group. I've had discussions over the dinner table at night were hard to break yourself away from in order to study, and not because you were gossiping about people, but because you were learning things.

SOLOMON: I recently had a conversation with a friend of mine who was meeting up with a friend of hers who doesn't go to MIT. And they had a conversation that was very much 'boy drama.' And then she realized MIT was so not that!

DAWSON: That's right. Exactly, yes!

I think there've been times when people have looked at us-- Well, I have one amusing story. We needed to replace an electrical switch in our house, and it was a double switch. One of them was two-way: it's a double switch. Two different switches controlled that light, and the other one controlled an outdoor light on the switch box. Well, it would have been all fine except for the fact that the new switch we bought was not configured the same as the old switch.

SOLOMON: This was for the house?

DAWSON: It was for our own home. Neither of us, of course, was an electrical engineer, although I did have one course in course 6. And so, at one point we had it wired up so it flashed as we went through the middle of the switch. We finally got it working and we went out to lunch. We were using the napkins to draw diagrams to figure out what had caused which phenomenon. And the waitress was sort of looking at us like we were pretty weird!

And outside of the world of MIT, I was in the band and my husband was, too. We met in the flute section of the MIT Concert Band. We did a band tour down to Washington, D.C., and we went out to dinner one night. I never thought about the fact that I was the only woman at the table. These were just a bunch of my friends. So I was engaging with them in the conversation. We were

making techie jokes, and that sort of thing. John said later, "They were looking at you like they couldn't figure you out at all." I was clueless.

SOLOMON: That's one of the best courses at MIT.

DAWSON: That's right. It is.

SOLOMON: So, it sounds to me like your overall experience at MIT was very positive.

DAWSON: It was. Yes, it was. I understand that there were others who did not have the positive experience that I had. But for me, it really gave me a feeling of confidence that I could cope with the place. Years later, the [Institute's] Educational Council-- I was contacted by the admissions office as a woman having graduated from MIT. And that was a pretty rare bird at the time. And they want to know if I had ideas about how they could increase the number of women at MIT. And I said, "Well, no. I don't have any brilliant ideas, except you need to find them and then encourage them to apply." Because 100% of admissions not made do not get accepted.

And one of the things I said was, "I do urge you, however, not to lower standards just in order to admit more women, because it was so good for my self-confidence to know that I could be admitted on an equal basis with a man. If I felt that I had been brought in as a token woman to increase the number of women at MIT, I would have felt much more pressure to succeed and prove something.

The very fact that I could know that I was not admitted on a special basis, but that I was admitted because MIT thought that I could compete, meant that I could come in with some self-confidence. And I could graduate with some confidence that I was capable of doing these things.

SOLOMON: Did you feel that the curriculum was incredibly difficult, as compared to whatever you did after MIT?

DAWSON: We were talking about that at the reunion, too, and many of us felt that the first year of grad school was a real letdown. I went off to the University of Washington for a master's degree. Actually, I intended to go for Ph.D., but then my boyfriend – who became my fiancé, who became my husband – was at Michigan, the University of Michigan. We had so many long-distance fights by snail mail, so we decided it'd be better if we could get together and get it over with. But anyway, when I arrived there I discovered that many of the courses that were first year of graduate school courses contained a lot of material I already had at MIT.

And I know also from teaching at Penn State that the material they cover in the first three semesters in the math courses--

SOLOMON: For their Ph.D. programs?

DAWSON: No, for the undergraduate programs. The material they covered in the first three semesters of math courses was covered in the first two at MIT and more. And more. So, yes, we talk about the fire hose. It was definitely a fire hose!

SOLOMON: The fire hose is still going strong!

DAWSON: Right. Exactly.

SOLOMON: You've mentioned this already, but to be clear, you went for your master's at the University of Washington, and then you went on to earn a Ph.D.?

DAWSON: Then I entered the Ph.D. program at the University of Michigan. I did not complete a thesis. So it was one of those 'all but the dissertation' situations. And that was partially because my husband had finally received his Ph.D. And the job market was so tight at that point that he had a three-year postdoc fellowship or postdoc appointment at Penn State in State College [Pennsylvania]. And it just became really difficult to commute from State College to Michigan for the purposes of writing a dissertation. And I didn't really have anyone that was could really give me direction for completing a thesis. And so it just kind of petered out. I did not manage to finish a dissertation.

SOLOMON: And they were both in math?

DAWSON: Yes.

SOLOMON: The master's and the Ph.D. program?

DAWSON: Yes.

SOLOMON: I guess you've mentioned this, but can you say more about how you felt MIT prepared you for your master's and Ph.D.?

DAWSON: I did not have any problem with the master's. I only had to complete certain courses. And I did not need to write a thesis because I took an MA rather than an MS. And the reason for that was simply to finish up so that I could get to the University of Michigan. But I think MIT was good preparation. I think it was. It wasn't even so much the subject matter as the way you learn to manage time and set priorities and accomplish chores on time. Study habits. Just the general time management.

I was a teaching fellow at the same time at both places, so I had the responsibility for teaching courses as well as taking courses. And all of that required a lot of time management.

SOLOMON: I can imagine.

DAWSON: That was one of the most valuable lessons, I think – in addition to a subject matter, obviously. But one of the other things that – and we've all talked about this – one of the things we learned at MIT was time management and setting priorities.

SOLOMON: I'm in the middle of learning that myself. What did you do after grad school?

DAWSON: I taught part-time at Penn State. And then, my husband's instructorship was finished; it terminated after three years, as it was intended to. He became an assistant professor at the branch campus. He was rather frustrated by the difficulty of keeping up with current research at such a place, and he began going into the history of mathematical logic. So he received an invitation to-- Well, he was studying the life and works of a very famous mathematical logician of the early 20th century, Kurt Gödel. He received information that Gödel's papers had been at the Institute for Advanced Study in Princeton, and he asked to see if they were available. Well, they hadn't been cataloged yet. Well, he continued to pester them, and finally they said, "Would you like to catalog them?" And so he ended cataloging these papers.

And at the same time, he-- It's a rather long story. It's not worth talking about here, but he got involved with a project to publish the collected works of Kurt Gödel. We learned that Gödel had used an obsolete German shorthand to write his notes. So any of his notes that were not already published, and things that were not already published, were written in this obsolete German shorthand.

And I rashly said – again here come some more of my extraneous credits – I rashly said, "Well I had a lot more German at Tech than you did. So if we can find some information about this shorthand, I'll see if I can learn it." Well, my area of mathematics was intended to be topology, but I hung around the logicians so much. And I also had some foundational qualms of my own, so I'd taken some courses in foundations and logic.

Well, darned if we didn't find that the man's own shorthand textbook. So I started to just go through it as if I were taking a course in it. And at the same time, the Institute of Advanced Study put us in contact with an elderly gentleman from Munich who was a professional photographer. But he knew the same shorthand, this Gabelsberger shorthand, so we began to work with him. We would sit with one of Gödel's notebooks, and he would read the German

and then point to the equations. And then I would try to scribble down in German. And then he would ask me, "Now, does that make sense?" Well, it made sense in the sense that it was mathematically grammatical. Whether it was actually correct, I didn't know. But then we would run it by my husband. So the three of us would generate this text.

Eventually, by that time, the project had done the first two volumes, which were already published works. And I had helped with annotations from his own [Gödel's] copies of these things, with the shorthand. By the time we did publish those, I knew so much about the documents that were in the shorthand and not yet published that I became the managing editor for the project.

So we had all these professors from Stanford or Carnegie Mellon and Berkeley – and my husband. And then I was the one who was putting all this together, making sure that everything was consistent, coaxing introductory notes out of these people.

It took us a good 20 years to finish these collected works. There are five volumes. The middle volume is lectures that he himself had listed as things he could have published but had not yet worked into final form. And then we also published the correspondence.

So I worked for 20 or 25 years with this project as managing editor, and also the chief transcriber of the shorthand. We did find a couple of other people that were willing to help us with it, but mostly it was my work to transcribe these things and get them in publishable form.

We met fascinating people and went really interesting places because of the project, so it turned out well. We still get occasional requests to consult on this shorthand, because we didn't do all of Gödel's work by any means. And I know from nothing about technical philosophy. So if we want to go into his philosophical notebooks, someone else who knows that terminology is going to have to do it. But I still occasionally get requests that say, "Hey, do you think this really works in the shorthand?" And I could say, "Well, yeah, I think you could make a case for that." That's been interesting.

SOLOMON: Just saying, "Hey, I can help out with that."

DAWSON: You never know where life is going to lead you in these things. You know, I tell younger people try to be open to all kinds of experiences, because in the long run, the fact that I had worked as a technical editor in the editorial office at Draper Labs, which was the Instrumentation Laboratory at the time (I-Lab was working on the guidance systems for the Apollo Project), came together with my German from college and some of the other things I'd done – like a course in

calligraphy on a lark, which helped me understand some of this text on writing in shorthand. All of those things came together to allow me to do that.

In a lot of ways, I feel like I've made more of a contribution to scholarship by making these texts available than I would have by trying to publish some minor theorem in topology that no one would ever use or care about. So, you just never know where it's going to lead you.

SOLOMON: You said you took the German courses here?

DAWSON: I did. Well, actually I took two semesters of German in one summer at Kansas State University, just to be close to my parents over the summer. And then, when I came back here, I was ready to go into this semester of German. So I took a third semester and fourth semester. And then I was thinking about-- I don't know if you still have this requirement. Every two years we had to do a series of courses in the humanities in one area.

SOLOMON: Yeah, we still have to do that.

DAWSON: And we called it our humanities minor.

SOLOMON: We call that a concentration now.

DAWSON: OK, yeah, maybe it was a concentration. I thought I was going to do it in German, and so I took one extra German course, which was purely literature and purely in German. And I thought I was going to do one more, but the only course I really wanted to take was taught by a guy that I had a lot of conflict with. I kind of think there might have been some prejudice there. And so finally I said, "OK, I'll do music instead."

So my humanities concentration was actually in music. I had already taken a course in music composition, and so I took another. And then I took a seminar on the [Bach] Brandenburg Concertos, and then one on opera. So, it was a nice respite from the technical stuff in first place. This was when you had extraneous credits. I had extra credits every year, here or there. But I got a lot out of it, nevertheless.

SOLOMON: The language courses here are pretty intense right now.

DAWSON: They are, yes. They are.

SOLOMON: And I'm assuming they still are.

DAWSON: Are you taking language courses?

SOLOMON: I'm taking Korean right now.

DAWSON: Oh, OK. I bet that's interesting. I've always thought that linguistics, languages, are interesting.

SOLOMON: I agree. I actually did write my application letters to MIT on languages, and did not say anything about computer science in my application, even though I was a computer science major.

DAWSON: We had some major linguists that I might see here, very interesting people. I never got to take a linguistics course here, but I did at the University of Michigan. Once I got into grad school there, I took several languages. They, too, required you to take some courses outside of mathematics as part of your degree program. And so I did mine in linguistics. And there were some major people in Michigan in linguistics also. Languages are fascinating. I think they're a really interesting window into the human mind.

SOLOMON: They are. When you are limited to some sort of vocabulary in some way--

DAWSON: And even their structure is, an individual languages structure, is-- It's just interesting. This is the way these humans think about this.

SOLOMON: I believe Spanish views time as spatially big, versus English, which thinks of it as long. So you have long breaks versus big breaks.

DAWSON: OK.

SOLOMON: And in Spanish, when you say "a big event," they might think "big" in terms of like space, but they'll think time as well. So if you say, "There was a big wedding," they'll think long wedding.

DAWSON: That's interesting. Yeah.

SOLOMON: Sorry, that was a bit of a tangent!

DAWSON: Those little differences, I just find them fascinating. Yeah, I really do.

SOLOMON: Let's see. Can you tell me about any work-life issues you had as a woman in the workplace?

DAWSON: I was very lucky in that respect. First of all, I was not going for tenure as a professor. I recognized that that was where the glass ceiling was at the time that I was coming out of graduate school. Woman would get faculty positions, but they would not get promoted. And I didn't have that issue, because I wasn't ever on the tenure track. So personally, I didn't have them, although they were there, and I knew that they were there.

I was very lucky when I joined this editorial project that the chief editor recognized what I had to offer. And as far as I could tell, there was no looking down on me because I was a woman, because he knew what talents I had to offer the project. And he wanted to use those talents. So I didn't. But I was very lucky in that respect.

SOLOMON: Do you have any advice for any women who are thinking of going to MIT or are in the middle of their MIT experience?

DAWSON: We do have to prove, still, I think, that we are capable. I don't know if you've felt that yourself.

SOLOMON: I have not felt it here. But I have heard stories of my friends who are friends of friends who are perfectly validated in their interests and academic pursuits here. But then they'll go home and be talking to their great uncle or some other person, and they'll be really surprised that those people won't really think that they are capable of being mechanical engineers, for example.

DAWSON: I have a little sign in my study that says, "To be considered half as good, a woman has to work twice as hard and be twice as good." And the tag line is, "Fortunately, this is not hard."

SOLOMON: I may have to go searching for that sign now!

DAWSON: I shouldn't be saying "work twice as hard." But I do feel that if you've been admitted to MIT, there is a bit of a responsibility to both women in the workplace and the MIT team, because they expect you to be contributing. So, you still probably have to stand up a little bit to the guys in a way, to some of them. Not all of them.

SOLOMON: I really haven't felt it at MIT or with the students around me, but I feel like maybe outside of MIT we may have to stand a little straighter.

DAWSON: Yes, I think so. I think you're right. And the other thing is to be role models. We didn't have too many role models at the time that we were coming through. And I think that I'm loving the fact that young women these days are not particularly abashed at simply saying that they want to be an engineer. They want to be a physicist. They want to be a chemist. When we were coming through, you felt a little sheepish.

SOLOMON: Saying you want to be an engineer?

DAWSON: Saying you wanted to be an engineer, because people just didn't expect that of women. So I do feel that women, we need to be role models. We really do.

SOLOMON: Make it easier on the next generation.

DAWSON: And make it a little bit a little bit easier to help raise the glass ceiling just a little bit further. And I guess the thing that I didn't do was to be really aware of the problems that women do sometimes face in the workplace. And you have to really strike a good compromise. You don't want to be abrasive, but you want to be assertive about saying "Look, I can do this. Forget the fact that I'm a woman. I can do this."

SOLOMON: There will be moments.

DAWSON: There will be moments. Yes, there will.

SOLOMON: Is there anything else about MIT or other aspects that you'd like to mention?

DAWSON: I have to say that being here for a reunion, my husband and I--

SOLOMON: Your 50th reunion.

DAWSON: It's my 50th this year, so he got to be the spouse this year. And for me and for him, it feels like coming home, it really does – because this is really where we became who we really are, where I grew up from a very naive teenager from a small town in western Kansas coming into a very large city and learning to cope with it. And I came out of here a totally different person. I just love the place. I mean, we all talked about how Tech is hell--

SOLOMON: Yup!

DAWSON: --but I feel like the testing that I went through here academically and in many ways, it helps you grow so much that you come out a much stronger, capable person.

SOLOMON: I was just recently talking to one of my friends who is a sophomore right now, but has seen her friends who are juniors and seniors grow. And it's incredible how much you change between the first two years and the last two years.

DAWSON: And even the first year, you go home and you have grown up so much. Some of the young people in my family would come away saying, "She's been one year in college and you can really see it." So I think that in now, I appreciate the testing, both the actual testing and the courses, and also just the testing your mettle was very, very good for me. Because it proved to me that I could do it.

SOLOMON: It gives you this kind of self-confidence.

DAWSON: And I think that by the time that was a senior year, I realized that in some kind of maybe masochistic way, I actually enjoyed the tests. Because you got this

kind of adrenaline rush that you knew you have to be really sharp to do this. But you walk in there saying, "OK. I'm ready. I can I got this. I can do this." So the challenges are so good. They really change you and make you more capable. So you just can't run away from challenges. You need to face them and accomplish these things. Go for it. And it may help you grow.

SOLOMON: What about your retirement plans?

DAWSON: When we finished the publication project, we said, "OK. That's it. We're stopping at volume five. There's lots more, but we're stopping at volume five." And I said, "OK, that's it for me, personally, too. I'm going to spin, knit, quilt and train my dogs. As I've been kind of doing that in the little bits of time that I had anyway. And so that's what I've been doing.

I got involved in Siberian husky rescue because we had adopted a husky from a shelter near us. And when emails were first coming out and becoming popular, I joined this email list that discusses Siberian huskies. Well, then I became much more conscious of breed rescue at that point. And I learned about this an idea that a couple of people had to take the hair from these dogs and make a yarn with it and make things out of it.

Well, I kind of always wanted to learn to spin. But I thought it was going to have to wait for another life, because I was involved in so much. So I wrote the person who was talking about this, and we started corresponding with it. And we founded a board, a fundraising board. There was one person who did spin on this board. We decided we would make things with the hair, and we would use that to help rescue groups with medical expenses for their dogs.

Then our spinner decided to quit, and she wanted to raise Alaskan Huskies. And so I said, "Well, there's a spinning course near us. Maybe I'll take this and see if I can learn." I always kind of wanted to. And so I took the course. And that's really how I got started. So the board that I belong to has been going on for – oh, we started in 1998, so we've been going for almost 20 years. In that amount of time, we've raised about \$250,000. And we have dispersed that to many rescue groups to help over 500 dogs. So we're kind of pleased with ourselves for doing that. But it's gotten me involved with spinning. What an amusing tale, which is kind of irrelevant, I suppose. I enjoy it very much.

The rescue group, the actual rescue group that actually rescues the dogs that I got involved with, used to go to have a fundraising booth at the University of Delaware's Ag day. You had to have something educational with you on your booth in order to do this. And I said, "So why don't I bring my spinning wheel? I'll spin dog hair. We can talk about that. That'll be educational." So for quite a few years, I did that. And I got the biggest kick out of the guys, the engineers.

They were obviously engineers – pocket protectors, standing all the way across the sidewalk! And you could see them thinking, "This is women's work, we ought to be able to figure out how this works." And they couldn't figure out how the spinning wheel was working.

I dealt with these guys for many, many years, these types. And I would just let them stew for quite a while. And then I would say "It's great. Do not be embarrassed to ask." This is really where the Industrial Revolution started, with textile equipment making this possible to produce to do this in a mass way. Because at one time, the women had to spin all of the yarn and all of the thread for which the garments were made. You didn't have a closet full of garments because of that. So it really is where the Industrial Revolution, all of our machining and all that sort thing started."

So once I showed them how the spinning wheel-- The spinning wheel is much more sophisticated than it looks, and regulating things and so forth is somewhat technical. And it was always kind of fun. And there was always a crop of them over there across the sidewalk looking and thinking, "I ought to be able to figure this out." That was a lot of fun.

We have one classmate that if you can get hold of, it would be really good for you to talk to: Ruth Beckley McDowell [SB Architecture '67]. She came out of the School of Architecture, in their visual design program. She was here as they were designing the visual design program. She was not happy with the place at all. But she has become a world-class quilter, quilt artist and quilt teacher. She's now living in the northwest part of Massachusetts, in Colrain. I've taken a few classes from her as a quilter. And I think she would be very interesting for you to talk to. But that's another thing that I really enjoyed.

And one of the things that appeals to me about that is the combination of the geometry and the color and the texture of the fabrics, but especially the color and the geometry, the color patterns.

SOLOMON: This is way back to the artist in you.

DAWSON: That's right. Exactly. I guess, I guess.

SOLOMON: The six-year-old you is having fun with the quilter.

DAWSON: Having fun with and playing with pens and pencils and compasses and drafting equipment. MIT never had a drafting requirement, but I always enjoyed playing with all of those things as part of the geometry. So that's what I'm up to: I do a bunch of quilting, I work with Siberian husky rescue, I'm on this husky board and do some spinning as well.

SOLOMON: And quilt work.

DAWSON: Yes. And occasional consulting, still, on the [Gabelsberger] shorthand. So it's rewarding. I enjoy it. I don't feel the least bit guilty about being retired. It's totally different. I'm still trying to figure out how I had time to work!

SOLOMON: Thank you so much for taking time to speak with me.

DAWSON: My pleasure, Eden.