An Interview with

MARY R. FEAY

OH 501

Conducted by Thomas J. Misa

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Mary R. Feay Interview

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Oral History 501

Abstract

Mary Feay attended the University of Wisconsin–Madison, taking an undergraduate
degree in mathematics and then two master's, in math and computer science, in 1966-
67. She accepted a job with Bell Labs and began work initially in New Jersey, then
moved to Bell Labs Indian Hill in Naperville, IL, working in the computer center doing
operating systems and programming languages — creating software tools used in
developing the electronic switching systems (ESS). She was promoted in 1977 into
supervisory roles for system testing, office applications, and standards-setting. The latter
included a three-year stint (1980-83) participating in the development of CHILL, the
CCITT High Level Language. She assesses a set of 1967 advertisements from the trade
journal *Datamation*, then relates her experience at Bell during the 1970s with affirmative
action as well as hiring practices.

Misa: It's the 9th of December 2015. My name is Tom Misa. I'm here with Mary Feay, in her house in Naperville, [Illinois], and we're doing an interview for the Sloan Foundation project to better understand the experiences of women in the computing industry in the 1960s, 1970s, 1980s, and 1990s. Mary, could you take us back to your childhood or upbringing, grade school or high school years, and [tell us] were there any hobbies or projects or activities or classes that you were particularly interested in during those years that might have inclined you toward the pursuit of a technical career?

Feay: I enjoyed my math courses and I enjoyed things that were logical. So I didn't do very well at history and English where there was a matter of opinion whether something was a good book, or whether I got the idea. But with math there's 'if', 'then', 'else', and triangles are triangles. And computer science was the thing. And it was just fun, so when I was in undergraduate school, we took a lot of courses. I mean you had to take a broad number of courses. In graduate school — and I was in math, that was in 1967 — so taking math courses and that was like too focused, too boring. So I took a computer science class and that was fun. And then I took more. So eventually while I was trying to get a master's in math, but I was taking so many computer science classes for the fun of it, that in one more semester I could get a master's in computer science.

Misa: What if we go back to high school, were there high school math classes that were engaging to you?

Feay: I don't really remember that much about high school. It was just something I got through.

Misa: Any family members or people in your community that may have been a role model that had had some kind of mathematical background or more of a technically oriented career?

Feay: Well my father was an inventor and owned a medical research equipment production company.

Misa: That's pretty interesting.

Feay: He was an inventor, so I wasn't restricted. I could be anything I wanted. And my brother could be anything he wanted. So there were no restrictions or focusing, trying to get me to move in a particular direction.

Misa: Was your father supportive of you and your brother doing something different? Being an inventor is an interesting line of work.

Feay: He owned that company. And my brother didn't have the freedom to do what he wanted to do. He was the son of the boss. He was definitely oriented toward going into that business. I was not, so this was either good news or bad news when I went through

all this affirmative action stuff, like, was it good that I was given the freedom to be anything I wanted? Or would it have better if I'd have been focused like my brother?

Misa: When you finished high school, were there a set of different options about continuing on to college that you considered?

Feay: It was assumed I was going to go to college, and it became clear that that's really what I knew best how to do. Actually, I worked for an insurance company for six months. Not sure why, but I ended up working for an insurance company as an actuarial scientist.

Misa: Lot of math there.

Feay: Right, using the math. And I think I took the first two easy actuarial tests, but that didn't seem good so I went back to get more computer science classes and got my master's.

Misa: Where did you go to undergraduate and graduate school?

Feay: All University of Wisconsin, so I got my bachelor's in math at Madison, and a master's in math, and then a master's in computer science.

Misa: Master's in math *and* in computer science.

Feay: So I have two separate master's degrees.

Misa: Two master's degrees. And what years were you at Madison?

Feay: In 1966 I got my master's in math. So it was 1961-65 getting my B.S., and in 1966 got a master's in math, and 1967 got a master's in computer science.

Misa: Okay. I've got a couple of advertisements from 1967, so they're perfectly timed. We can take a look at those a bit later on. What did people do with a background like yours from the University of Wisconsin, when they were finishing up their master's work?

Feay: The expectation, the only thing I can think of was that you would teach. So computer science was what I really enjoyed. I was taking math because computer science was new so it was just for fun. But the computer science classes had a lot of articles by people from Bell Labs, from Murray Hill. So it wasn't the switching system stuff, it was artificial intelligence, and more esoteric things.

Misa: We talked with several people who worked for Bell Labs that it was an open secret that you were working on computers for the phone system, but really couldn't call them computers, *per se*, because of this earlier consent decree from, I think 1956. So Bell Labs had a tremendous amount of very sophisticated computing going on, part of it in the military division, and then much of it connected to the phone system. But it wasn't

necessarily computing in the way that people understood it in the public realm. But you were reading Bell Labs publications in grad school?

Feay: Yes.

Misa: So that was definitely on your map. May I ask what other kinds of computer science courses did you have? Programming, databases, algorithms?

Feay: Programming languages, SNOBOL, SPITBALL, artificial intelligence, I mean there were things like that going on.

Misa: Do you remember being particularly attractive to any of those topics in specific?

Feay: It must've been languages, the ability to translate and get something done in languages.

Misa: Natural languages or programming languages?

Feay: Programming languages, yes. [Note: While that doesn't make sense, we were talking about translating from one programming language to another – specifically the C language and CHILL – CCITT Hill Level Language]

Misa: So it wasn't just merely learning the program but thinking about different types of programming languages.

Feay: And compilers, and translators.

Misa: Were there many women who were pursuing master's [degrees] in math or computer science at the time?

Feay: Probably not, but I was blissfully unaware that I was in a small minority. I just completely ignored it. It didn't seem to cause me any trouble. I didn't feel like I was excluded from anything. I did what I wanted to.

Misa: So it was basically welcoming and intellectually stimulating and interesting career?

Feay: Yes, so looking back, my theory is that it was a new enough branch of the world that they hadn't yet figured out that it was a good place to be in, and that they ought to keep women out. There weren't a whole lot of old guys because it was a young area to be in.

Misa: You look back in the 1960s and there was a lot of really pioneering and groundbreaking work. You think how in the world did they do that? It must've been an exciting time.

Feay: It was.

Misa: At the end of your master's degree, were there a variety of options that you were considering? You said that Bell Labs was on your radar but were there other companies?

Feay: I interviewed with IBM. I think I had three serious — I remember IBM and Bell Labs [and there] must've been one other one. So I did the interview scene.

Misa: Say a little bit about that. Was Bell Labs interviewing out East, or were they doing something in the Midwest?

Feay: I was at the University of Wisconsin, and they interviewed me at Holmdel in New Jersey, and they didn't even tell me about Indian Hill. So here I am, you know, inches away from Naperville in Madison, Wisconsin . . .

Misa: That's reasonably close, yes. [Laughs.]

Feay: . . . yes, and they never even mentioned that there's anything about electrical switching systems or anything. So I ended up working on basically developing computer software for the computer center, not for the switching system. So I didn't really get into switching system software until very near the end as a manger. So I never really wrote switching system software. I wrote operating systems.

Misa: Just in terms of interviewing, do you remember any differences that struck you at the time between Bell Labs and IBM, in terms of kind of work or corporate culture? Those are two big, well-known American companies.

Feay: Bell Labs seemed more theoretical, but now, of course, I wasn't in the theoretical side at all, I was in the very practical side. I was aware that I was working not in the main line of Bell Labs, AT&T business. I was doing the operating systems, computers, card readers, you know, reading cards and doing things like that.

Misa: Did you start work then at Indian Hill, Naperville, or was there another assignment that Bell Labs may have put you in at first?

Feay: Okay, let's see. I thought I was going to end up working in New Jersey. I think I had a summer job in New Jersey, and my husband was going to end up working for Esso in New Jersey. So for sure, I'm going to end up at Holmdel, or Murray Hill, or someplace.

Misa: The oil company Esso?

Feay: Yes, actually Amoco now. But we found out he got a job here, so I got a summer job here so we could be close.

Misa: Here, meaning Naperville?

Feay: Indian Hill.

Misa: So you had experience at Indian Hill?

Feay: Yes, a summer job. And then I got the job. It isn't real clear to me but I had a summer job. Bruce got a job [and] it's like oops, I guess we're not going to go to New Jersey because 99 percent of chemical engineers from Wisconsin end up in New Jersey. No, he ended up at Argonne, actually.

Misa: Oh, at Argonne.

Feay: Yes. So two years later he moved to Amoco. So it was just incredibly lucky, locationally [sic], that we could get jobs together.

Misa: Two jobs that both were in [pause]

Feay: In our respective, different fields.

Misa: Can you say something about the working environment when you first came to Indian Hill, not for the summer job but when you came as a permanent employee? What were your impressions?

Feay: It was an exciting place to work and back then, there was a strong emphasis on affirmative action and having women do well. I mean there weren't very many women. When I got promoted to supervisor I was the 11th supervisor. The women supervisors got together for lunch and helped each other out because nobody ever teaches anybody how to be a supervisor, but it was a little harder for women.

Misa: It sounds like it was a supportive network, then.

Feay: Yes, definitely.

Misa: Do you recall roughly — I'm not looking for an exact number — but you said that the numbers initially at Bell Labs were pretty low, in terms of women, or was there a pretty noticeable cohort of technical women?

Feay: Oh, it was a low number of women. But I mean I'd gotten my master's degree in math and computer science [and] there was a low number of women there. I wasn't used to sitting in a room with half women. I was used to sitting in a room where if there were 10 people there would be two or maybe three women. That was pretty normal.

Misa: Two or three women.

Feay: I don't know.

Misa: But a small number.

Feay: A small number, certainly not near half.

Misa: Right. What kinds of projects did you work on? You were doing work for the computer center.

Feay: I remember card readers and paper tape. We'd back stuff up with paper tape. We wrote in machine language. We were helping the people who write the electronic switching systems to write programs. We're doing compilers and assemblers.

Misa: So you were creating the tools then?

Feay: Yes, I worked on tools.

Misa: But mostly you were actually working with quite low level languages, machine code.

Feay: Machine language and FORTRAN.

Misa: FORTRAN, too.

Feay: Yes, it was really weird doing systems programming in FORTRAN. That kind of seemed weird but it worked.

Misa: You always think of FORTRAN being an application language, but you can write anything in anything, in theory.

Feay: Yes. [Laughs.] We used FORTRAN, and my husband, this chemical engineer, programmed in FORTRAN, but it was a very different kind of FORTRAN from what I was doing. That was kind of funny.

Misa: FORTRAN was widely used in all kinds of science and engineering applications but to be doing operating systems work in FORTRAN was something else. Was the language C coming in?

Feay: C was coming in. If I wrote in C, I did it for a very short time because I got promoted to supervisor. But then everybody was writing in C, but it didn't matter because you've seen one language, you've seen 'em all. You just have to believe that it can be done to manage people doing it.

Misa: And UNIX was pretty popular within the Bell System.

Feay: Yes.

Misa: Were any of the machines you were working on connected to UNIX?

Feay: Not until later. I started working on IBM [360] Model 50s and IBM 360s, Model 60. I mean they were big blue boxes.

Misa: So the 360 model was the main workhorse or main machine that you worked on?

Feay: Yes.

Misa: What kind of experiences did you have as a supervisor? You said that you got promoted into managerial positions relatively early.

Feay: Yes.

Misa: Check your CV there.

Feay: [Laughs.] Yes, check it. So I worked on CCITT. I worked in system test and I became a system test supervisor. When I became a system test supervisor basically you're managing errors and I thought I should've been doing this all along. I really liked finding problems. So I should've been a system tester but I wasn't as an engineer.

Misa: So roughly what year?

Feay: I was promoted it looks like 1990.

Misa: So you thought you may have been doing that earlier on.

Feay: It looks like I did system testing for one year before that, system testing and first office application deployment. But before that, I'd done RTR, Real Time the operating system for ESS, RTR. And I'd done testing in generic integration for — you might know these — 4E2.

Misa: No.

Feay: 5E6; wonder where they're at now.

Misa: Those were part of the ESS?

Feay: 5ESS system, yes. RTR Integration was; that was the UNIX system that was used to develop the electronic switching systems. We haven't talked about CHILL. I worked on the CCITT High Level Language.

Misa: CCITT, that sounds like standard setting.

Feay: Yes, CCITT standardization, but the reality is countries who are buying switching systems — typically are owned by countries — don't really care what language the

switching system is written in. They care that it talks to other switching systems. So the real standards are the communication between the systems, and Bell Labs was concerned that there might be a standardization of the programming language used to write those switching systems. And so I was on the team to work on what that standard would be, the CCITT High Level Language. Turns out nobody cared. CHILL died; I'm sure it's not around.

Misa: So it was the interfaces that were really the key thing that the operating system or the language to the operating system wasn't quite so pressing.

Feay: Yes.

Misa: What kinds of activities? Did you end up attending international meetings or how did that fit in?

Feay: Yes.

Misa: That's something that's not occurring here at Indian Hill.

Feay: No, no, that was in Geneva, and there was Trondheim, Norway. We went to Japan.

Misa: Can you give us a flavor of those meetings? You said that in the end the issues weren't quite so pressing but standard setting is a particular interest with how computing gets spread around the world.

Feay: It was really kind of weird because I was traveling with other people. You may have talked to Barbara Hornbach.

Misa: I will tomorrow.

Feay: Okay. So I traveled with her to CCITT and she was working on standardizing switching system language, you know, the way the systems talk to each other. She really had things she had to do, and all I had to do was make sure that they didn't exclude C as a possible programming language. So my job was to keep an eye on it and see that it could be translated, so I didn't have the same kind of pressure that Barbara had, the business pressure.

Misa: I will ask her about that; that must have been an interesting and maybe intense time for her. A lot of standard setting, I think, is basically companies or even countries simply watching the process like you're describing, to make sure something if it's going to go, doesn't exclude an option that they feel or the company feels [is] essential or desirable. So that kind of watching doesn't sound exciting but it's useful because who knows what may have happened otherwise.

Feay: Yes, except in the end, nobody really believed that standardizing the programming language was important. And clearly standardizing the chit chat between machines is crucial.

Misa: That's actually how they plug together.

Feay: [Laughing] Yes, right.

Misa: Get phone calls to Geneva or Trondheim.

Feay: It's computers.

Misa: Yes. Well the thing that I find really interesting — I've been studying computers a long time, Mary — and it took me a very long number of years to understand that ESS was basically a stored program computer.

Feay: Oh yes.

Misa: You worked on it so you had no illusions that it was anything else.

Feay: It's a computer.

Misa: Within the Bell System and people who are insiders to the industry know this, but ESS I just assumed was somehow something to do with switching telephone calls — which it is — but it's essentially a stored program computer so that whole element of Bell's activity that I mentioned earlier is not well known. And if these conversations have a chance to help understand that a little bit that's an added benefit. How long did you work on the standardization? Something that took a number of years? You didn't work full-time on that.

Feay: No, no. three years. There was a like a three- or four-year cycle, so people got appointed for a three- or four-year cycle, so 1980-83. You're going to keep this [CV], I'm not.

Misa: You can reference this. The interview's no type of a memory test.

Feay: [Laughing.] That's good.

Misa: Just trying to get a sense of your perspectives. The standardizing work, you said, happened in the 1980s. Were there different projects that you'd worked on in the 1970s that prepared the way for that?

Feay: Not for me. I mean there were probably other people who could've done it but I think I was one of the few who was willing to go travel internationally twice a year for a week or two.

Misa: Were there also documents you needed to periodically review, even when you were on your regular job, not traveling to one of the international meetings?

Feay: Yes, but unlike say for Barbara, this was like for a different department. It really didn't impact my day-to-day job. It was more like I was protecting us from something that might happen [rather] than really trying to affect what was happening, and clearly, it didn't happen. I haven't followed it but I don't think that anybody ever said okay, i.e., you have to be written in something other than C. They're still writing in C.

Misa: I wonder if we could just step back, you were graduating from Madison right in the middle of when a couple of my advertisements come from *Datamation*. I've got five of these and could I have you take a quick look at each of them. *Datamation* was the prominent trade magazine. You may not have read it at the time but a lot of people did and companies that were interested in hiring people into the computing fields were oftentimes advertising there. This particular set ends up seems to me to be sending different messages especially to women who may be potentially interested in their companies. The first one is from Bellcom, which is connected to the Bell System, and it says computer specialist across the top.

Feay: Male and female symbols. [Laughs.]

Misa: We don't know that, but Bellcom seems to have done that intentionally. It seems to send the message that this is not for men alone. And then men and women are symbolically represented there. [I] don't know what the moon is.

Feay: [Laughs.] Where you can go, the moon.

Misa: That was the Apollo years, as well.

Feay: The old Bell System logo.

Misa: That's right. The second one here is from Lockheed.

Feay: Where can man go? That doesn't seem to include women.

Misa: [They] ended up at least becoming one of the companies that tried to take affirmative action issues quite seriously, but obviously 1967, they weren't [here].

Feay: When I came in there was affirmative action going on.

Misa: Oh yes. Number three [is] from RCA.

Feay: "You're our kind of man." [Laughs.] Now that is insulting.

Misa: Insulting, you'd say.

Feay: Insulting, yes.

Misa: Somebody thought this was going to be the way of getting computer people.

Feay: Well I mean, it's man, and it's only got one person and it's a man.

Misa: I just love the idea of it, "you're broad enough for science fiction." [Laughs.]

Feay: Broad enough for science fiction.

Misa: I don't know what else.

Feay: So that wouldn't appeal to me.

Misa: How about this one; it's TRW. "Mission to Mars."

Feay: I don't know, but it's interesting. The last two of it's all been talk to a man, reply to James.

Misa: Oh, reply to James, yes. That's Tom Dickerson and Linda Howard. So they're picturing men and women working together, and obviously the mission to Mars would've been fairly forward thinking.

Feay: It would've been fun.

Misa: This is 1967 so this is like the next big thing.

Feay: I wasn't looking at these things. I'd made my mind up I wanted to work for Bell Labs.

Misa: And the last one, Cornell Aeronautic Lab.

Feay: "Wanted: Men!" That would certainly not be appealing.

Misa: Isn't it astonishing that some of the companies seemed really to have zeroed in and done quite women-friendly advertising and then others — this is three out of five or something — I selected these because it seemed like they were [pause]

Feay: Broad, yes.

Misa: There were others that would simply list a job and not provide necessarily any clues, but there's not — at least in 1967 — a clear idea. You couldn't get away with this

today and I don't think you could get away with this in 1977, even. But in 1967, this kind of almost blatantly sexist ad is [pause]

Feay: That's blatant. Except there's a women, but she's doing switchboard.

Misa: Oh, do you think that's a woman?

Feay: I think that's a woman doing switchboard.

Misa: Oh, okay. They're trying to squeeze in a [pause]

Feay: [Laughs.] I don't know, but that looks like a woman to me.

Misa: Okay. I don't know how . . .

Feay: That's definitely a man.

Misa: On the top, yes, that's a man, you can see that male face.

Feay: Look at the eye.

Misa: Kind of a big diversity, and I thought that was quite notable. Some companies seemed tone deaf and others were quite attentive to making their jobs appealing to

women, and maybe to men, too. Mission to Mars sounds attractive to anybody who's interested in going beyond and doing something interesting out in space.

Feay: I don't want to go there but I'd send my computer, send my program.

Misa: So that's the 1960s. Of course in the 1970s, the women's movement is a pretty big influence. Was that something that you talked about at work or had a personal relationship at all? Many women did, but not all.

Feay: I did. I was on Affirmative Action Committees, and planned meetings, and testified, so there were times when I thought I was spending too much of my effort on affirmative action.

Misa: This was even during the 1970s, or later?

Feay: Probably the 1970s.

Misa: How would you characterize the environment at Bell Labs at the time, for affirmative action issues?

Feay: At Indian Hill, it was progressive, it was welcoming to women. Not so at, say, Holmdel or Murray Hill, because Indian Hill was younger, the managers were younger, it wasn't all the structure and history to kind of keep women in their place.

Misa: It was the late 1960s that Indian Hill was organized, is that right?

Feay: 1968, 1969.

Misa: So when you came there that was pretty much a brand new facility?

Feay: Yes. So it was like half of the managers were people who moved from New Jersey, or more, but they were the younger and more flexible people that moved. And there were a lot of people who were moved that didn't want to move, and would go back. Let's see, there was this meeting in the auditorium and there were all these people they were talking to… Oh! This is a fun one, maybe a side lite, but, they were moving all these people from New Jersey and the banks were giving discounts on mortgages to these people that were moving from New Jersey. And they were getting their mortgage saying they're giving discounts to people who work for Bell Labs. So I went in and I said I work for Bell Labs, I'd like a discount on my mortgage. They actually said to me, 'You're a woman. Your husband works for Argonne. You don't get a discount.' I said, 'Excuse me, my highest level executive director at Bell Labs is a director of this bank, I'll go talk to him and it'll be okay.' So little me made an appointment with big him [pause]

Misa: With the director?

Feay: With the director, the highest ranking person, and I said, 'I'm getting a mortgage and I'd like to get the Bell Labs discount. Could you help me? You're on the board.' He said to me, 'You're a woman.'

Misa: No!

Feay: Yes! And I just dropped my jaw and I went across the street to another bank and they said we'll give you that rate, it's not a discount or anything, but you're well qualified. So that was kind of the end of that. I got my 4-3/4 percent mortgage, or whatever it was.

Misa: From a rival bank, not the bank that cut this deal.

Feay: Not from bank where one of the directors at Bell Labs was a director. So that was always part of my, you know, you never can tell. Oh my goodness, and to my face he could say that. The amazing thing is I stayed around and worked. The people I worked with weren't like that; that was somebody way up [the ladder].

Misa: Was there evidence of change in those more traditional or even sexist attitudes?

Feay: Oh yes. I mean as time went by it got better, for sure. I was there a long time, 1967 to 1996.

Misa: 1967 is when you said you graduated.

Feay: Yes, 1977 was when I was supervisor. So one of the things that occurred to me, there was one time when I was in a meeting and I said, 'Good grief, this is what blacks go through every day of their life.' That was when 'you're a woman, what do you expect? You're not going to get the discount.' And I thought blacks go through this every day. I hope it isn't as bad for blacks now as it was then; it was pretty bad.

Misa: Affirmative action, the stories make you cringe sometimes.

Feay: Yes. My life certainly wasn't that bad, but that was a big thing for me when it happened to me. And it helped me to actually relate, because we were doing affirmative action for blacks, and women, and probably hadn't gotten to Asians, or handicapped, or anything like that.

Misa: Latino people?

Feay: Oh, no, not then, I don't think. That's probably pretty new, isn't it?

Misa: I don't know. I think it depends on where you are.

Feay: Might not have been where I was because there might not have been any Latinos at Indian Hill.

Misa: That's quite possible.

Feay: Or such small numbers.

Misa: You said that there were a number of important changes. Do you recall any kind of bellwethers, somebody getting a promotion or somebody you could claim as a victory in the affirmative action area for women?

Feay: I remember when Helen Bauer got promoted to supervisor. Like, I hired her — I was trying to think, was it Helen I had this feeling about or was it Dana Becker? I don't know if you know Dana Becker but she's gone way high. And I hired her! [Laughs.] And it's like when some of these people that were promoted were hired, I don't think they'd have been hired if there hadn't been a woman on the team to make sure that they didn't get missed.

Misa: Okay. It's important to have a position somewhere in the hierarchy to pull other people in.

Feay: Yes, but I'm thinking of the hiring. I thought it was kind of important that women got hired, not just that they get promoted.

Misa: Can I ask what kinds of characteristics you looked for in terms of hiring people? Work skills, or social skills, personality, what kinds of things do you look for in hiring people?

Feay: What did I look for? I was probably looking for something interesting, a project or something specific, not just the ability to talk nicely. A project, or program, or something, multiple languages. [If] somebody didn't know SNOBOL, I wouldn't be impressed.

Misa: SNOBOL was an important language to you?

Feay: Yes.

Misa: So if they didn't know, that was not a good sign.

Feay: That was not a good sign. They had to at least know what it was.

Misa: Can you say a bit why SNOBOL was of particular consequence?

Feay: Well it was new, so it was cutting edge, and it allowed you to do processing of language in a way that FORTRAN couldn't. FORTRAN you could pick six letters; with SNOBOL you could say get me letters up until you find the next [THE]. So you could do more interesting things, I thought, with SNOBOL or SPITBOL as the compiler version.

Misa: That connects back to your interest in artificial intelligence, then, and text processing?

Feay: Probably.

Misa: Because you're doing it, you're actually looking for something but then you're collecting a whole bunch of other material that may have interest to some list processing.

Feay: One of the projects — and I don't know if I ever actually succeeded — but the project I remember doing was cryptoquotes, like cryptoquotes in the paper?

Misa: Yes.

Feay: I thought I should be able to write a program that does cryptoquotes. It's not that easy.

Misa: You mean the kind of scrambling of [pause]

Feay: Where they scramble the letters, where you do one-on-one substitution, and you recognize small words and repetitions. These are more likely to be there, and then you trial and error, you know. My mother could do it so I thought I ought to be able to write a program if my mother could do it.

Misa: Was your mother mathematical in any way?

Feay: No.

Misa: This cryptographic work, that's a level of facility.

Feay: She did crossword puzzles and cryptoquotes. She was smart I guess. You don't think about your mother that way, but yes.

Misa: May have been some inspiration for you, then.

Feay: Yes.

Misa: Were there any projects that you took particular pride in having done?

Feay: Boy, has it been a long time since I thought about it. Actually, I most enjoyed doing the system testing and finding faults, and making the systems better. So there were tracking systems to keep track and prioritizing, so I did some systems like that to keep track of problems. Doesn't say anything about that on here. Software optioning, hmm. I sure could've written more words on this to help me.

Misa: Well, CVs oftentimes are a very compressed version of your career, supposed to fit on a page or so.

Feay: It did.

Misa: Hard for someone with a career spanning four decades or so to squeeze it onto one page. I wonder if I could ask you to do some slightly broader reflecting. Your experience in the 1960s and 1970s was with a system — I'm thinking about computing at large, not just Bell Labs — we were talking about earlier before beginning the recording that many women chose careers in computing in the 1960s, 1970s, but not beyond the mid-1980s. In the 1980s, the number of women taking computer science bachelor's degrees starts dropping and it's dropped ever since. And the proportion of women in the white collar IT workforce has also dropped, it's fallen. It was almost 40 percent and it's dropped about 10 percentage points from that. It's just a puzzle why this might be the case. Did you see anything in the 1980s or 1990s that might bear on that puzzle? Not asking for a solution but did you see something, or sense a change, or see that there might be a change in the culture or climate of computing?

Feay: No. My work perspective is that in the beginning, it was a new field so there weren't the set of historical male pressures and then as it got more history, then those things would start impinging. It's like when it was new, anybody could do anything, but once it got established it's like hey, these are good jobs, those should be for men.

Misa: It seems something like that occurred. I don't know exactly . . .

Feay: How did that happen?

Misa: . . . how that happened because of course, you're not going to find a man who says that.

Feay: No.

Misa: People have been speculating about this from many different angles. But the newness of the field was something you found attractive and appealing when you were entering computing?

Feay: No, it wasn't the newness. For me, it was the logic. It was you couldn't argue. I mean, it worked.

Misa: Your program worked or it didn't.

Feay: Program worked or it didn't work, unlike an English essay where you could argue that my interpretation was or wasn't right. So that's what I really liked about computer science is that it was logical, and not personal. Where were we going? What was your real question?

Misa: My real question was just the other parts of computing that you personally might've been attracted to in the late 1960s and in the 1970s. You said even later on that you found aspects of this testing that you really liked.

Feay: Right. So that's like even burrowing in deeper, more logic, even more logical. So when you do that ESTJ thing, you know about Myers Briggs?

Misa: Yes.

Feay: I am so far off the scale on the data driven [laughs] that it's no wonder.

Misa: So working in computing connected to that.

Feay: Yes, you could've predicted that. If I had taken Myers Briggs they would've steered me to it. But you didn't have to steer me to it because I was allowed to do what I wanted to do, I wasn't steered to do anything.

Misa: Seems like that's turned out pretty well for you.

Feay: [Laughing] It did, yes. I am pretty happy here.

Misa: Are there any other topics you'd like to speak to, or questions that I might've asked today?

Feay: We got to the mortgage; that was the biggest whap that I ever had. And that happened at work. It was at the bank but it was at work, too.

Misa: That cuts close, that's not some banker.

Feay: It wasn't just the bank.

Misa: It was your Bell Labs director.

Feay: My Bell Labs director, yes. All in all, I worked with good people and Bell Labs was good.

Misa: It was a really notable place. You had some really exciting years, I think. In the 1960s and 1970s, Bell Labs was a pretty good place to work.

Feay: Well in Indian Hill, because of its relative youth, [it] was probably even better than Holmdel or Murray Hill. Well Murray Hill, that's a whole new particular thing; that's not Bell Labs, that's Murray Hill.

Misa: Well, that's great. Thanks so much for your comments this afternoon. [I] appreciate that.

Feay: Okay.