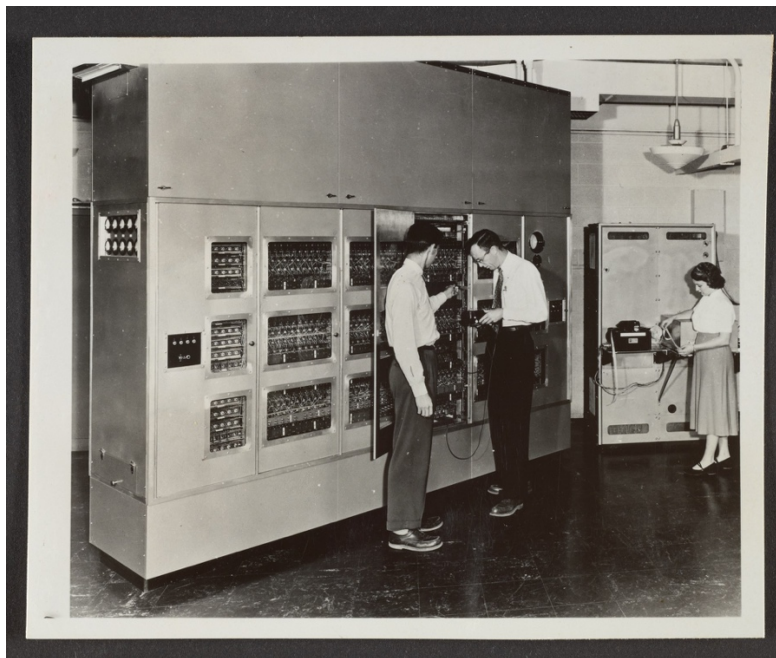# From Margin to Center: Reframing the History of Women in Computing and Information Technology through Oral Histories

An Oral History Interview with Ramona P. Borders

Conducted by Bethany Anderson on June 12, 2017 in Room 308, Main Library,

University of Illinois at Urbana-Champaign

Transcription by Alicia Hopkins

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Abstract: Born and raised in Decatur, Illinois, Ramona (Russell) Pogue Borders received her bachelor of science degree in marketing and management from the University of Illinois at Urbana-Champaign in 1948. Following graduation, Borders worked in the Bureau of Economics and Business Research as a statistician. From 1952 through 1984, she worked as one of the first operators for ILLIAC I (located in 165A Engineering Research Laboratory). She was promoted to computer supervisor and when the Digital Computer Laboratory (DCL) opened in 1958. Borders became the administrative aide in 1968, and when the Computing Services Office (CSO) formed in separation from the Department of Computer Science in 1970, she became one of the first employees of CSO. She retired from the University of Illinois in 1984. In this interview, Borders describes her childhood and education, as well as her experiences as a woman working in this unique computing environment.

Part 1:

00:00:00
BA: Today is Monday June 12, 2017 and I am Bethany Anderson from the University of Illinois Archives. I am here today with Ramona Borders in Room 308 in the Main Library at the University of Illinois Urbana Champaign to talk with her about her experience working in the Digital Computer Laboratory. This interview is part of the ACM funded project "From Margin to Center: Reframing the History of Women in Computing and Information Technology Through Oral Histories." So first of all, thank you for talking with me today, Ramona.

00:00:34
RB: Thank you.

00:00:35
BA: I wonder if you could talk a bit about your background and your childhood. And for starters, if you could talk about where you grew up.

00:00:45
RB: I was born and raised in Decatur, Illinois. And lived there and at the age of about 18, I took a thousand dollars that I had save up from childhood and my suitcase and took off for the big university. Back then, a thousand dollars, in 1944, would cover living expenses, tuition, books, and a little bit for spending money. Not much, but a little bit. But a thousand dollars really took you from start to finish for two semesters.

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00:01:25
BA: So, what hobbies or interests or subjects at school attracted your attention when you were still living in Decatur and did any of these interests or hobbies pave the way toward your decision to pursue a technical career?

00:01:42
RB: No. Computers were never heard of as a child growing up. And in fact, when I entered the university, I had never heard the word to the best of my recollection. The only thing in my academic early, early years was that I loved math. And it was one of my better subjects. I didn't always get an A, but most of the time I did. And on the sideline history was always important to me. I've always wanted to know about the past and project into the future, so but, it really wasn't really anything to relate with it.

00:02:26
BA: You mentioned that you were attracted to math. So, if you, I'd like to ask you about high school and when you were in high school where there any math classes in particular that attracted your attention?

00:02:41
RB: No, I took all the math in high school that I could get. And I had one teacher, I think her name was Georgiana Fisher. She was an older teacher. Not too terribly far from retirement probably, but she was a real inspiration. And I can remember back in the seventh grade, I had a teacher by the name of Ella Roach. She was way past retirement. And she was one of the most strict people I ever knew in the academic world; and she was a tremendous inspiration to me in math. And most of the kids didn't like her but I did, of course, I—[laugh] that's my nature. So anyway, I math has always been a big thing. Even, even today, she'll tell you that I like to work with figures and things.

00:03:40
RB: And I can still add in my head.

00:03:44
BA: And so you had Ella Roach in high school? Is this, is that correct?

00:03:46
RB: Grade school— seventh grade.

00:03:47
Unknown: Seventh grade.

00:03:48
BA: Seventh grade. Okay.

00:03:51
RB: What we called back in those days junior high.

00:03:53
BA: Okay. So, when you got to high school, did you have any math teachers who were particularly important—

00:03:58
RB: Yes, this was the Georgiana Fisher in high school.

00:03:59
BA: Okay, she was in high school. Okay.

00:04:01
RB: And I had her for uh, three semesters of algebra.

00:04:07
BA: Okay. So, you mentioned that you came to the University of Illinois after you graduated from high school. Why did you pick that as a place to pursue your education?

00:04:20
RB: It never entered my mind to go anyplace else.

00:04:24

RB: Uh—I don't know. I just— always was the place to go.

00:04:31

RB: It was a small school then.

00:04:34

RB: You know, it wasn't the scary, big school that so that many students find now. We didn't have junior colleges to help prepare you for it. And I think we only had uh, something in the, seems to me like, around 22,000 people on the campus. And at that time, we had huge groups of what was called V12. These were sailors and they dressed in sailor uniforms in the ballroom at the Union Building, was their dining room. And they would all march for it and it was always very exciting to see these uh guys.

00:05:11

RB [cont.]: And our classes were small. The classes I had were all about between seventeen, eighteen, twenty-two students at the most. And the other thing in that period of time, we didn't have any research assistants that did some of the teaching or the lab work. Those guys were all off to the war. And we had full professors as freshmen and sophomore and then when you got into your upper classes, you also got the same guys. I had the same professor sometimes for three courses. And that's certainly not the case nowadays. And—Very—and you had a real relationship with the professors. I don't know whether it's still done or not, probably not, but back in those days, it was not unusual to be invited to their home on Sunday night and that sort of thing. So, it was a whole different environment and it wasn't a big scary place that a lot of the students think of it as now.

00:06:18

BA: So, when you came to the University of Illinois, what did you decide to pick as your course of study? What were your majors?

00:06:29

RB: Well, I enrolled in commerce because it was one of the few places that didn't have to take foreign language. [laugh] That's being honest! Foreign languages, even though I have travelled the world over, been in 169 countries, many of them ten, twelve, twenty times, languages are hard for me. I just didn't— I had three years of French and I

didn't— anyway, that was about the only place I could enroll without a requirement for more languages.

00:07:03
BA: [laugh] Good reason. [laugh] So, what did you decide for your—you would pursue in terms of your degree here at the university?

00:07:12
RB: Well, I kind of started out wanting to do accounting. And I never really was interested in teaching like, back in those days, girls either became teachers or they became nurses. Well, neither of them really appeared to me; what was important for me so I had to find something else. And so, management was, I swear to God, I was born with it. But anyway, back in those days, we had management was one degree, and business administration was another degree.

00:07:47
RB [cont.]: Nowadays, it's combined. And so, I had a degree in both. And I only liked one course for a major in accounting, but couldn't work it and I had a lot of, I took all of the business law I could take; and every elective was in commerce. I took nothing of my electives in any of the other areas. I was not into literature, I wasn't into science. I wasn't into anything except my concentration was totally business and management.

00:08:27
BA: Mm-hmm. So, as you were pursuing your degrees in business and management, did you take any science, math, or computer, I don't know if they would have been called computer science courses, yeah?

00:08:39
RB: Well, the computer wasn't even in existence so that's out.

00:08:41
BA: Yeah. [laugh]

00:08:43
RB: Um, no. I didn't really take any. I took geography and darn near flunked it. [laugh] I didn't take any science. I took what I had to do in psychology and all these various things.

00:08:57
Unknown: Take any math classes?

00:08:59
RB: Huh?

00:08:59
Unknown: Mathematics classes?

00:09:00
RB: I did take some math. Not a great deal of math because I was still concentrating— I only took what was required in the other areas.

00:09:09
RB: And every elective hour I had was take in some sort of business area.

00:09:13
BA: Sure. So, of these classes that you took, were there any that you found to be particularly memorable or instrumental, especially in terms of the career you pursued later on?

00:09:28
RB: Not, not really. They're— computers just didn't exist so they, you know there was no way you could do any planning for it. Throughout my life I, the one course I took that I think probably will come nearer being valuable in later years, was, I took a course called "Industrial Engineering" and I loved it. And it was a lot of that.

00:10:00

RB [cont.]: That I pulled because we did a lot of time efficiencies and we did easy ways of doing things, and things like that. And I really kind of started out wanting to be a lawyer but what happened was, about the time I would have gone into law school, the soldiers, the sailors, and all the veterans were coming back and of course, they had priority in wanting to finish their education. And many of them, because of the GI Bill were starting their education. So little old women weren't going to stand a chance. Might as well forget it. But I would be willing to bet you, if we could prove it, I spent more time in the law library reading case history than any darn student ever did. [laugh] You know, I really wanted to be a lawyer, but didn't work out.

00:10:49

BA: I just wanted to return to, a minute, you had mentioned that you had taken an industrial engineering course.

00:10:54

RB: Mm-hmm.

00:10:55

BA: Do you remember the faculty who taught that course and did that faculty member have any impact on your personally, or intellectually?

00:11:04

RB: All of my professors had an impact on me. I loved them. I did not have a bad one the whole time; never a bad one. And I don't remember who taught it. I can't pull that.

00:11:26

BA: Okay. That's no problem. So, what was it like to be a student at the University of Illinois at this period? If you had to describe it to somebody, what would have been a typical day for you?

00:11:41

RB: Describe a typical day, did she say?

8

00:11:43
Unknown: As a student.

00:11:43
RB: As a student.

00:11:44
Unknown: As a student. Did you--

00:11:45
RB: Okay, well I never got an 8:00 class. [laugh]

00:11:49
Unknown: [overlapping] Did you want to talk to them== Well yeah. [laugh] Did you want to talk to them about your job in the Bursar's Office? Did she talk to you about that already?

00:11:57
RB: I think. Not before we starting recording, but—

00:12:00
Unknown: Okay. Did you want to cover that at all?

00:12:01
BA: Yeah, we can cover that if you want. Sure, yeah.

00:12:03
RB: Well, whatever. Okay.

00:12:04
Unknown: Part of her day would have been included a part time job, I believe.

00:12:05
BA: Sure. Yeah.

00:12:06
RB: Okay. Oh, okay. Now, what is, what is the standing question now?

00:12:09
Unknown: What was a day like? What was your--

00:12:10
RB: The day? Okay, my day like? Okay. Usually started, well I got out of bed. That was a good start if I could do it. [laugh] So anyway, you know, usual things. You get up, you get ready. Breakfast is at, was at a certain time and usually the 9:00 was the earliest I ever got classes. And since I was working in pre-registration all these years, I was able to get my classes arranged so that I didn't have to run from this end of the campus to that end of the campus. I could them where—because I couldn't make it from the math building to the commerce building and hit the restroom in ten minutes. It wasn't [stammers] I couldn't do it. So, but anyway, I would have three of four classes a day and I was in class every day. I wasn't one of these people that got Monday, Wednesday, Friday. [stammers] I had some classes every day. And I got them arranged where I could make it from building to building and whatever. And whenever there was an hour in between classes, I usually figured an hour in between classes for my hardest subjects and I'd hit the library and it would give me about 45 minutes to study, or fresh up, or whatever for an exam or whatever the case may be. I didn't spend a whole lot of time in the library in terms of research and that sort of thing. That was not part of anything in the subjects that I took. And I usually tried not to have classes after a 3:00 class, which let me out at four and then it would be you know, study time and that sort of thing.

00:14:02
RB [cont.]: I lived in a house where we had about twelve or thirteen girls, something like this. And through the noon hour we'd have a quick lunch at the house and then we would play== I don't remember what we would play. It was probably pinochle or something. We had about a half hour of playing cards and then off we went. I had 1:00 classes many times, so that was pretty much a typical day. We had good girls in the house, and all of them, I was probably the dumbest one in there; very, very smart people. And we had a real cross section of—we had music, math. We had one

engineering student, whose parents were both engineers. Smart as a whip. Straight A. I hated her. [laugh]

00:14:56
Unknown: Do you remember her name?

00:14:57
RB: [overlapping] And we had good times in the house.

00:14:59
BA: Do you remember the name of the engineering student?

00:15:06
RB: The first name began with an M and it was a little bit of an odd name. I can't pull it.

00:15:14
BA: Mm. Okay.

0:15:16
RB: And she graduated in— she graduated after I did. Um, she must have graduated in about '49 or '50.

00:15:25
RB: She was the only girl in engineering at the time, I think.

00:15:29
BA: Hmm. Okay.

00:15:30
RB: And her parents were both engineers.

00:15:32
Unknown: Marion Manley?

00:15:34
BA: Would it be Marion Manley?

00:15:38
RB: No. I don't think that was it.

00:15:37
BA: [overlapping] No? Okay. One of the M names popped in my head. Yeah. So, you'd mentioned that you had worked in the Bursar's Office.

00:15:49
RB: Yes.

00:15:50
BA: Could you talk about that experience and how you came to get that job?

00:15:52
RB: Well, that was great. That developed from being the— doing student registration and working for Wally Zimmerman [sic] and I did university deposits and I typed out checks that were to be written and took them up to, the guy's name was Pratt. Mr. Pratt was the one that had to sign the checks and once—whatever Wal—Mr. Zimmerman wanted me to do, [stammers] I did. I didn't work for anybody else but him so—but the main thing was the checks. And uh, they had just started, I think, had just started doing photographs of checks. And that one of the things did—

00:16:37
BA: [overlapping] Mm-hmm.

00:16:37
RB: Was I did the photo work of checks. It was not the sophisticated equipment that we

have nowadays that's kind of like this. This was a big piece of equipment that we used back in those days.

00:16:54
BA: Hmm. And how long did you work in Bursar's Office?

00:16:57
RB: Well I was in school as a student for four years. And I, so I worked.

00:17:01
BA: [Unintelligible].

00:17:02
RB: I guess I worked three summers. And because the summer I graduated, I didn't work for him. So, I worked '44,'45,'46, and '47. No--

00:17:17
BA: Okay.

00:17:18
Unknown: Four summers, yeah. Because you came the summer before you--.

00:17:18
RB: No, no. No. I came, yeah, I came in '44. So, the summers I worked were '45, '46, and '47.

00:17:25
Unknown: I thought you came the summer before you enrolled in classes.

00:17:28
RB: No. No, no, no.

00:17:28
Unknown: [overlapping] Oh, okay.

00:17:29
RB: My first, my first time on the campus as a student was in the Fall of 1984.

00:17:35
Unknown: '44.

00:17:36
RB: '44. Oh God. Keep me straight, honey. [laugh]

00:17:39
Unknown: I'm trying. [laugh]

00:17:42
RB: [stammers] I'm really not too bad on them, really.

00:17:44
Unknown: You're pretty good. Mm-hmm.

00:17:46
RB: I just get a little mixed up now and then.

00:17:47
BA: So then did you graduate did you graduate in 1948, or--

00:17:49
RB: Yes.

00:17:50
BA: Okay. 1948. So, when you graduated in 1948, what did you did you do immediately after?

00:17:57
RB: I went to work for Roger's Motor Equipment.

00:18:01
BA: Okay.

00:18:01
RB: As office manager and to set up procedures there. They really didn't have any procedure, they just [stammers] I don't think they'd been in existence a year even.

00:18:11
BA: Mm-hmm.

00:18:11
RB: And the wife of the guy that owned Roger's Auto Equipment was trying to function in this capacity. So, I was hired to set up procedures, try to get the bank balanced, which was way out of balance, do payroll, time records and all the general things that a person would do in a small business. And they wanted me to hire someone even though I could certainly do it all. They wanted me to hire someone; so, I did. I hired this young girl was uh, out of high school and she was very good. She was a fast learner and real sharp and everything. And there wasn't anything very challenging after I got it all set up and so, I had this call from the University wanting [stammers] to be interested in whether I'd like to come to the University. And of course, I would love it and so that's when I talked to the people that own it and explained to them the situation because I had promised that I would stay several years.

00:19:19
RB [cont.]: And they understood and they also recognized the fact that they still weren't making any money yet so, I came back to the University on— I think my actual first day at the University was January 2.

00:19:35
BA: Okay.

00:19:36
RB: 1949 was my first day of work at the University.

00:19:39
BA: And when had you started—what month had you started working at Roger's Auto Parts?

00:19:47
RB: It was in June.

00:19:47
BA: June. Okay, so basically June through December.

00:19:50
RB: [overlapping] June of '48.

00:19:51
BA: Okay. Okay. And about how many people did you work with when you were at the Roger's Auto Parts?

00:19:59
RB: Well, there was the two of us after I hired the girl in the office and there were probably something like six or seven employees that were salesmen.

00:20:08
RB: They didn't go out of the business but they were in there when people walked in, and from garages and individuals that were working on their cars and things like that. It wasn't a big group.

00:20:20
BA: Mm-hmm. Mm-hmm. So, when you came back to the University in January of 1949, right?

00:20:26
RB: Mm-hmm.

00:20:27
BA: What was your position and, could you talk a bit about where you were working?

00:20:30
RB: [overlapping] Okay, when I started at the University it was a civil service position and it was called "Computer Operator One."

00:20:38
BA: Mm-hmm.

00:20:39
RB: There were two of us. Before they hired me, two or three months, they had hired a man that was a University graduate and his field was math. And they had hired him and he was also a Computer Operator One. Both of our jobs were pretty much identical. We were hired to operate the computer.

00:21:11
RB [cont.]: And [stammers] as it turned he was not a person— he was a very, very, very nice. He was always very polite to me but he worked one shift and I worked another shift. One week we 8:00 to 4:00 and the other one worked 4:00 to midnight. The next week, we reversed it. When we were hired, we were told that eventually a third shift would be put on and we would rotate all three shifts. Well, both of us thought they were crazy. And we knew we weren't going to do it but we just didn't say anything. [laugh] So when it came time to put on the third shift-- They were smart. They hired a person that was a night person. So, we continued to alternate these two shifts and the night person was hired for midnight to 8:00. We always had to be very prompt to work because there was no overlap at any point, on anything. And the fellow that also had the position of "Operator One," I don't know. He was quite a bit older than I, and didn't

17

seem to be very energetic in this sort of thing. So, of course, I loved the challenge of the thing.

0022:30
RB [cont.]: So, I was the one that set up practically all of the procedures as to how to handle what we called the input and all of the procedures for doing what we called "co-checking," which was checking the programs that people wrote. And also, what we had the output, of processing the output. I designed the—what we called the input-output racks, which was the unit of the machine that processed the input to the computer and processed the output. Engineers had everything ass backwards. [laugh] And so, they you know, they—

00:23:13
BA: Yeah.

00:23:14
RB: I did it. And things really got interesting because the head of the group was a man named Ralph Meager and he was one of the most highly principled people I think I ever worked for. His swear word was "Holy cow." [laugh] And when he came out with that, I knew he was disturbed about something. [laugh] And I only saw him a little bit mad one time. And that was one time when one of the engineers left a soldering iron on the work table, and he had a habit when he wanted to talk to me, he'd sit down on the work table and he sat a little too close to soldering iron. We always kept them hot because we were always working on the computer and he came out with more than one "Holy cow!" [laugh] on that one. Anyway, he would come back to work at night.

00:24:07
RB [cont.]: Quite often. And I caught onto the time he always finished. He was always finished about the same time. So, programs that we ran on the computer would run all the way from a minute or less all the way to six or seven hours. Those were unusual. So, I would always try to find one that was busy for about an hour on the computer and I'd get that set about the time he was getting finished and he'd come in and say "Hello" and "How's things going?" And so on and so forth. So, I got so I talked with him about different things. So, we developed a wonderful working relationship. He would come in, and we'd—he knew I had the computer set. He was no dummy. So, we'd start going through the lab; all the different areas. And I'd say something about, "Well you know, it would be nice if this would happen." And "You know, this could be improved if we did

this." And we did that for weeks and weeks and weeks and weeks. Never said a word to anybody and pretty soon, it would happen.

00:25:18
BA: Hmm. Wow.

00:25:19
RB: And he gave me personally, credit for things but he didn't make a big to do of it with all the rest of them; which was good. I mean, I thought that was smart. You know, because last thing in the world that I ever wanted was any conflict with the men I was working with because they treated me like an angel. I mean, the men absolutely were marvelous. I don't understand why women have a problem in the workplace. I never did, I never did. It was just [stammers] I never heard a dirty word, I never heard a dirty story. I'd walk in the labs and sometimes it'd be silence and I'd do what I had to and I'd walk out and say, "Carry on!' And they'd say "Right-o!" [laugh] And so, you know, [stammers] it was fabulous. Just absolutely fabulous.

00:26:11
BA: Were you the only woman working in the Bureau of Economic and Research, and Business Research? Were you the only woman in [stammers] in your area?

00:26:20
RB: No, no.

00:26:21
BA: Okay.

00:26:22
RB: [overlapping] Over in the Bureau, I don't think we had any men in it except my boss and the head of the department.

00:26:31
BA: Okay.

00:26:32
RB: I think everybody else was a woman. I can't remember any men in that group.

00:26:34
BA: Okay.

00:25:35
RB: Yeah, that was all women.

00:26:37
Unknown: Ramona, I'm a little confused on the timing; and I'm sorry if I'm interrupting.

00:26:41
BA: Sure.

00:26:42
Unknown: You started in the computer [stammers] on January 2nd, 1949?

00:26:45
RB: No. I started with the Bureau of Economics.

00:26:48
Unknown: January 2nd, 1949, you started at the Bureau of Economics.

00:26:51
RB: Right.

00:26:52
Unknown: Not-- as Computer Operator One?

00:26:54
RB: No, no. I was a statistician.

00:26:55
Unknown: Oh, okay. So--

00:26:56
BA: Okay. Oh, I apologize. Okay.

00:26:58
Unknown: There was-- yeah, I think there was another piece of work in front of that.

00:27:02
BA: Okay. Okay.

00:27:02
Unknown: You started talking about Computer Operator One as your first job in 1949.

00:27:06
RB: That was, well, that was the first job I had in the computer area.

00:27:11
Unknown: But not in 1949.

00:27:13
RB: No, 1952.

00:27:15
Unknown: 1952.

00:27:16
RB: September 2, 1952.

00:27:17
Unknown: Yeah. Okay.

00:27:18
BA: Okay. Okay, so you were "Computer Operation One"--

00:27:22
RB: Yes.

00:27:22
BA: Starting in September 1952?

00:27:24
RB: Right.

00:27:25
BA: Okay, okay.

00:27:26
RB: Yeah, that's right.

00:27:28
BA: Let's just back up just a little bit then, so going back to—

00:27:31
Unknown: January 2nd, 1949.

00:27:32
BA: January 1949, when you were a statistician.

00:27:34
RB: Right.

00:27:35
BA: Could you talk a bit about that experience and your work in the Bureau?

00:27:39
RB: Okay. Well that, that was a work where I made up surveys and took graduate students into the field—

00:27:52
RB: To interview people. And then we would come back with all this material and I would do some, and supervise the students doing the tabulating by doing the little hashmarks and then I would run off the statistics on the calculator or whatever the boss wanted that was writing a market research study. And give him the results; and that basically was the whole job. I spent hours at the calculator, no computer, calculator; doing these statistics that he wanted. And did up a lot of graphs to show the incline or decline of whatever it might be.

00:28:36
RB [cont.]: And also during that period of time, there were various professors in the College of Commerce that had their own studies that they wanted done. So, I would be loaned to a particular professor to do whatever study he wanted and usually those were kind of small things. And they were also professors that I had had as a student. And as I had said earlier, I was very, very, very fortunate because you were able to establish a real bond with your professors. And since all the young people were gone, they had to teach an undergraduate class as well as the upper graduate and graduate classes. So, I never had a research assistant. Or a lab assistant, or anything. I had nothing but full professors or assistant or associate or whatever they are. But they all had the title of professor.

00:29:36
BA: Mm-hmm. So, during this time from January 1949 to September 1952, you had worked in the Bureau, correct?

00:29:47
RB: Not quite.

00:29:48
BA: Okay.

00:29:49
RB: I quit in June.

00:29:51
BA: [overlapping] June. Okay.

00:29:51
RB: Of 1952.

00:29:51
BA: Okay.

00:29:53
RB: And was basically unemployed that summer, by choice.

00:29:55
BA: [overlapping] Between the two. I see. Okay. Okay. And so, what drew you to the Statistical Service Unit during this time? How did you make that transition from the Bureau to the SSU Unit?

00:30:08
RB: Okay. The Statistical Unit was just an interesting thing. I was not a paid employee. At all.

00:30:17
RB: Uh, all of that work that was done there was done in addition to my job.

00:30:24
BA: Okay.

00:30:25
RB: And that was just kind of like a hobby so to speak. I was interested in doing survey work in a more efficient manner and a more accurate manner than what we were doing with the hashmarks. And fortunately, I knew and had great respect for George Beam, who was head of Statistical Unit and he very graciously, allowed me to work with one of his employees [stammers] to further my interest in things. And that, that was what really got me going; when I could see how data could be processed. And then, the personnel office, I was trying to still stay employed at the University so I was trying to find a job that summer because my goal was to be back on a job at the University by the first of September.

00:30:17
BA: Okay.

00:30:17
RB: That was my goal.

00:30:18
BA: I see. Yeah.

00:30:19
RB: And so, the personnel office was very aware of all this and once again it wasn't a case where you had masses of people, like you have now, and everything is

computerized. We—I knew the head of the personnel office on a personal basis even, you know.

00:31:36
BA: Mm-hmm.

00:31:36
RB: And so, they were on the lookout. Apparently, they recognized that I was ambitious and dependable. I had a good work record, attendance record, and that sort of thing. So, they appeared to be eager to place me still in the University. So, I got the calls for the interview and that's how that all started.

00:32:01
BA: At the Digital Computer Laboratory, right?

00:32:03
RB: Yes.

00:32:03
BA: Yes. Okay. And then— so, what initially drew you to tabulating on machines? You had mentioned that that was something that you were interested in. Why did that interest you?

00:32:17
RB: It was a different way of getting the end results that we wanted for the surveys and I found out very early that they were more accurate. And, you get bored sitting at a calculator doing all this stuff. [stammers] You know that, that wasn't much as a challenge for me. And doing it down, doing things down at the Statistical Unit was more of a challenge, I could hardly wait to get the stuff through the machines to see how close it was. [laugh] You know, [stammers] I was always like this. And they were fun people to work with. My working experience [stammers] in the Bureau was not totally satisfying. You know, [stammers] but the people down at the Statistical Unit were all enthused with their work and everybody was so nice, and it was just a great place to be.

00:33:15
BA: Mm-hmm. So, when you officially started your position as Computer Operator One--

00:33:24
RB: [overlapping] Yes. Yeah.

00:33:24
BA: In the Digital Computer Laboratory, so, what were your official job responsibilities?

00:33:31
RB: Well, basically, it was to run the computer.

00:33:33
BA: Just to run the computer.

00:33:34
RB: The entire university, I can't think of any college or area that eventually did not use the computer. In the early days, it was basically, physics, and chemistry, and engineering, and those sciences was the beginning. And my job was to help the students, and the professors. We had a lot of professors back in those days, grant money from the federal government was just flowing; and they all grants for different things in their field. And my job was to set up procedures as to how we would do this. And take the individual, everything was a one to one basis [stammer] and I made no difference between a professor and a student; it didn't matter to me. They were one of what we called a user, a client. So, in the early days, all of the programs and data were on teletype tape. Teletype tape that wasn't quite an inch wide and it had holes in it. Regular teletype tape.

00:34:53
RB [cont.]: And we had what was called a teletype reader and we had teletype printers. So, we would take these tapes, put it in the teletype reader, push the buttons and so on and so forth and the tapes would click-click-click-click-click-click through and the input was in the computer. Okay. When it stopped, there was an error. My job then became helping this student or user or whatever, figure out what happened; what was wrong.

So, I would work with them. They were usually smarter in this than I was because that was programming and I was limited in it but I—somehow or another I seemed to be able to get to the core of it. But anyway, their output would be in the form of teletype tape. And we would take it to a teletype printer and we'd put it in, and clunk-clunk-clunk-clunk, we'd get a printed page out. And that gave us some information. Okay so, that was what we did and we did it on a one to one basis. So, this is why when I was telling you that absolutely every person that used the computer, at some point, I had a one to one relationship with them. Because I was the one that helped them individually.

00:36:20
BA: Hm. So, do you remember any of these people that you had worked with specifically, or are there any instances that come to mind [laugh] of particularly challenging instances, where you couldn't—

00:36:36
RB: Yeah.

00:36:36
BA: Yeah.

00:36:37
RB: I had two people from Physics. Blatt, I can't think of his first name, but Blatt and Kelso was their name. They were working on the same project and they were both absolute total characters. [laugh] And [laugh] I never could get Blatt to put his name on his tapes. And I had set up a rule that you should put your name at the beginning of every one of your tapes because they had such a habit losing them or misplacing them or whatever; and when I found them I could return them. But if there was no name or indication on there, it was useless. So, I finally got a box about this size and I put on there, "Unclaimed Tapes" so whenever I'd find a tape if it didn't have a name on it or something, I'd throw it in there so you know, there [stammers] it could have been a serious thing to lose your whole darn program.

00:37:38
RB [cont.]: So anyway, we do this. Well one day, I was trying to teach Blatt a lesson. And I knew the tape belonged to him; but he [stammers] didn't have his name on it. So, I put it in the box. He hunted, and hunted, and hunted, and hunted for that tape;

28

couldn't find it. So, finally he was standing in the middle of the computer room, literally, he jumped straight up into the air. [laugh] And came down on the floor, "Where is the goddamn tape?" [laugh] And I said, "Well, I have a box over there that has unclaimed tapes in it. Did you look in that?" "'No." And I said, "Well, why don't you go look in that and see if your tape's there?" [laugh] The tape was there. So anyway, those two were real characters. [stammers] I just loved them dearly. They were a real challenge. They went to Australia, the two of them, and helped in a [stammers] new development of a computer lab down there.

00:38:36
RB [cont.]: So that was certainly one of the things that I've never forgotten about, about them. And back then we didn't have air conditioning for rooms; we had them for the computer and our main computer was huge and created a lot of heat into the room; but we had air conditioning that came up through the floor. There were big holes in the floors that the computers sat on and then there was fans to draw the air out so the air went out like this. But the room was hot. And one day, it was in the summertime and I actually had a rash on the back of my neck from perspiration. And I wore my hair a little longer back then and between the dress, and the heat, and my hair, I actually had a rash. And I had to take cheesecloth and wet it at the drinking fountain to put on my neck. So, this one particular day, the humidity, and heat, and everything was sky high and I went to work at 4:00. And usually the place looked like a pigpen. Everybody had waste paper here, waste paper there. [laugh] Tapes here, tapes there. Everything. Nobody cleaned up anything. And I just broke down. It was hot and I walked in on this mess and I just stood in the middle of the floor and cried.

00:40:09
RB [cont.]: So, somebody went in and told Dr. Meager, the head of the place, said, "Well, Ramona's crying." Well he— nobody had ever seen me cry before, because [stammer] very unemotional with that sort of thing. And I don't cry very often nowadays.

00:40:18
Unknown: Mm-mmm.

00:40:19
RB: [overlapping] Takes a lot to get me going. But anyway, he came in and, "What in the world is wrong with our Miss Russell?" And I said, "Not a damn thing that a

janitor's service twice a day wouldn't help." Two days later, we had janitor service twice a day.

00:40:35
BA: Oh wow. Hmm.

00:40:37
RB: And that, that did. That helped tremendously.

00:40:40
BA: Yeah.

00:40:41
RB: Uh, [stammers] you know. Crazy things like that. [laugh] Oh, it, it, it was, it was fun.

00:40:53
BA: So, you had started mentioning, a few minutes ago, walking around with Dr. Meager. Is that correct? When you two were, were working at the same time and, and talking about various changes that you'd wanted to make to the space and so forth. Could you talk a bit about some of those other ideas that you had and improvements that you wanted to make?

00:41:187
RB: Well, some of the main ones were, affected operations. I was interested in having things arranged in such a way that you saved time because we were at the point where not only were talking about minutes but we were talking about seconds on the computer. And so, everything had to be efficient and you didn't have a lot of wasted movements; and engineers were interested in just getting the thing up.

00:41:47
RB [cont.]: And then my job, once they got the experimental stuff going, then my job was to see where do we want this switch, and where do we want that switch, and where do we want this readout and all of that kind of stuff. And [stammers] where we

30

want to put everything. So that was one of the big things that I do and my coworker was not the least bit interested in things of that nature. He was a very nice guy. He wanted to come in and do his job and go home. Well, with me, I wanted to come in and I wanted to breathe, and do a lot of work and get busy and do things and not go home. And so, on that computer, I only worked eight hours a day as a rule except when somebody was on vacation, I had to work more or something. But down the road when I got on other computers, I didn't know what an eight-hour day was. Had no idea what an eight-hour day was. That was something magic. I actually had to work 48 hours without going home for sleep one time.

00:42:56
BA: Oh wow. And what was that case—could you talk about that [stammers] situation?

00:42:59
RB: Well, that happened back, we brought in— great big computer. The biggest in any university, that was owned by the university. Biggest in the world. And it was called an IBM 7090 and we were going to do what we called "in the field" convert it to a 94. Which meant engineers would come in and they would rewire certain things and add certain things and the parts and all of that were supposed to come in and they didn't come in. And my boss was asking me every few days and I said, "I have [stammers] Nothing's come in that I—that's come to me." So, he finally was getting a little bit upset and I told him, "Well, I'll do anything you want me to do." But I said, "I don't really know what to do. [stammers] They're not here. I haven't seen them." Well anyway, to make a long story short, what had happened was they'd come in three weeks earlier; were sitting in the engineer's office. Well, to add insult to the injury, the engineers were actually stepping over the box—

00:44:17
BA: Oh wow. [laugh]

00:44:18
RB: For three weeks. So, I got to investigating and figured out what was going on. So, I went down to my boss, who at that time, was Dr. James Snyder. Smartest man in the world I ever knew. Never made a mistake, so help me God, he never made a mistake. And I told him, I said, "You're not going to like this." "Well, what is it?" Looking over his glass. [laugh] I said, "The box has been sitting in the engineer's office for three weeks." "Uh-huh." I said, "Don't tell me. I've already done it." I said, "The engineers

have been called in on overtime." I said, "They're bringing somebody in from Kansas." And I said, "I'll going to be here around the clock." And I said, "We're going to get it done." So, I went home and changed into a pair of pants. Long pants. This is long before women wore slacks or pants or whatever.

00:45:27
RB [cont.]: And the only place I could put the blueprints was on the floor. So, I was on my hands and knees on the floor working with the engineers to put these changes in the computer. And of course, the computer was down. We couldn't run anything. But it went down immediately so anyway, we got it back up and running and converted and checked out and that sort of thing. But, sometimes when we would—our computer would go down, that's when it malfunctioned. That was the expression we used, "Computer's down. Can't run it." Once in a while, it'd be serious enough that, when my computer was sick, I was there and stayed with it and the engineers. And, until we got it up. But I used to get so, a little bit aggravated, because when the computer would be down, I'd put up a sign that says— so the students, everybody would know. I had more problem with the students on this, didn't have too much with the professors, and something to the effect that the computer's down and it will not be up before a certain time. As best I could estimate it. And the students would stand there and they'd look at the sign, and they'd read it and they'd look at me and they'd read.

00:46:44
BA: [laugh]

00:46:45
RB: "Does that really mean I'm not going to get on that computer before 4:00?"

00:46:49
BA: [laugh]

00:4650
RB: That used to aggravate me to death. So finally, we had one guy in the department who was political science, I think it was. And another smart—we only had smart people in there. I was probably the dumbest one but we had very, very smart people in there. I said, "Kern, what the heck is going on with these kids? They read a sign and then they turn around and ask me if it's true. Why yes, it's true! I put it up there! It's true!"

00:47:17
BA: [laugh]

00:47:18
RB: He said, "Ramona." He said, "Don't worry about it." He said, "This generation is different than your generation. This generation is brought up to question everything. You were brought up you don't question authority." He said, "That's the difference." Well, once I understood, why they'd ask the question, I'd say, "Take it for whatever you want." That was my standard answer.

00:47:40
BA: [laugh]

00:47:41
RB: "Take it for whatever you want," you know?

00:47:43
BA: About what year was this?

00:47:47
RB: Most—most of that happened about 196—between '63 and '66. Along in there was when the worst part of that happened. So, anyway, it's uh—

00:48:04
BA: So, you—

00:48:04
RB: [overlapping] We had a lot of fun.

00:48:05
BA: Right. So, you started off as a Computer Operator One.

00:48:08
RB: Right.

00:48:09
BA: And then when did you—advance to another position eventually in the DCL?

00:48:14
RB: The next thing that, that happened was the computer was running 24 hours a day, seven days a week at that point. And the gentlemen that had the same classification as I did, this was solely because he was a man, and I was told that, was promoted to Operator Two so they could give him more money. That was one thing that I had to face was, even Dr. Meager, that I loved dearly, when we would have our yearly little interview and this sort of thing. He'd want to know if I was happy and he could do to make me happy and all this kind of stuff. And I told him, I said, "The only thing that really bugs the daylights out of me is that you pay Huffman more than you pay me but yet, I'm the one that does all of the planning, the advancement, and all this sort of thing and he's the one that gives me all the headaches." And he said, "That's the way it's always going to be. Men are always going to make more money than you." And I said, "Well, okay." But I said, "I still don't like it." So, we went through this year after year after year.

00:49:23
RB [cont.]: Well, then there was this man that I said a while ago was so perfect, Dr. Snyder. I adored him. Absolutely worshipped the man. And he was a physicist and he had been a user. He worked with Donald Kerst on the development of the bubble chamber and some of these things and so he transferred from Physics over to Digital Computer. And he was going to be in charge of operations. There were two sections to the computer lab. One was operations and one was development. Okay. He was in charge of operations; which is what I was a part of. Well, he came over and I remember standing in the hallway and having him come down and I stood there and waited for him. And I said, "I understand that you're coming over here to work and that you're going to be my boss." He said, "Well, that'll be a change, won't it?"

00:50:16
BA: [laugh]

00:50:17
RB: Because when he was a user on the computer, I pretty well, controlled it, I guess is the word. And I never had a problem with him, though. Anyway, I said, "Well, I'm pleased that you're going to be my boss." And I said, "I'll do everything I can to do things the way you want it." And he said, "Oh, I know." He said. "You know," he said, "You take a rough diamond like us and you knock off the edges and you get a pretty good stone."

00:50:45
BA: [laugh]

00:50:46
RB: And I thought, you know, that was nice. I thought—I took it was a compliment. And so, anyway he [stammers] was so— when I had my first interview with him about "Are you happy? And what can we do to make you happy if you're unhappy?"

00:51:04
BA: [overlapping] Mm-hmm.

00:51:06
RB: And so on and so forth. And I told him, I said, "The only thing I'm unhappy about is that Huffman makes money than I do but I'm the one who does all the work in the way of development." But I mean, Huffman did his job. So, he looked at me again, over his glasses, and he said, "Well, I can't make the correction in one year." Well, as it turned out, from the time he was my boss, every single year my raise was bigger than Huffman's.

00:51:33
BA: Hmm.

00:51:34
RB: And I never will forget the year I was ten dollars a year more than he was. Oh boy!

00:51:37
BA: [laugh]

00:51:39
RB: I mean, I had champagne.

00:51:40
BA: [laugh]

00:51:42
RB: And he stabilized Huffman where he was and so from that point on as far as salary was concerned, as best as could be done, and you know there are some limitations in the University and all these sorts of things; well we had them back then too. I always felt that they did as—the best they could for me. And I know a couple of times I asked not to get a raise because the raises were so small; and we had people that were doing, I had people under me, that were doing very good work. And I asked them to give that to some of these people under me instead of giving to me and they said they wouldn't do it. And I said, "Why not?" And they said, "Well the orders that come through that it's across the board." So, I had to take raises that I would have liked to have given up. I mean, they weren't big but you know, [stammers] we had to—so that was really significant when I went $10 a year over that.

00:52:55
BA: [overlapping] Mm-hmm. Mm-hmm.

00:52:57
RB: And he retired long before I did.

00:53:01
RB: And uh, so anyway. That was—

00:53:05
RB: [overlapping] The way that went.

00:53:06
BA: Yeah. Did your title change at all during that period, as well?

00:53:09
RB: Yes. My title went to—it went to super— It went to Operator Two. ILLIAC got sep— uh saturated. 24 hours a day, seven days a week. It was saturated. And we had need of more computing capacity, so the University rented what was called an IBM 650. IBM is all numbers. And that was a [stammers] small machine. And instead of tape, we used IBM cards, of course. And we had magnetic tape on that machine for additional capacity. So, I was promoted to Operator Two and went on the 650.

00:54:02
RB: And I did the same thing on that machine that I had done on ILLIAC I. I had developed all of the procedures for people to give us their, at this point, decks of cards, to run through the computer and getting the end thing back to them; a whole system for this. At that point I started hiring the people. I didn't do hiring when I was on ILLIAC I but, I was given the responsibility of hiring my staff. And we ran that for several years and then it became totally inadequate. We had to go to something bigger. So that's when we went to, what was then, the largest computer in the world, in any university that controlled a computer. The 7090.

00:54:48
RB [cont.]: And it was a very large computer. It had a drum, it had magnetic tape, it had extra storage; it was huge. And I had a promotion to what was then computer supervisor. And my man, Dr. Snyder, that I dearly loved was still my boss. And he was the one that promoted me and put me in charge of it. It was overwhelming; absolutely overwhelming. So, I remember one day I went down to him and I told him, I said, "I'm sorry but I hate to tell you this." But he said—I said, "You put the wrong person in charge." I said, "You have a wealth of talent in these other people that can do it." And I said, "I don't think I can to it." And again, he looked at me over his glasses and he said, "Well, it should be sufficient for you that I think you can do it."

00:55:54
BA: [laugh]

00:55:55
RB: "Now I don't have time to do your job and my job," so he said, "You just get down there and you just run the place you know I want it run." And I said, "Yes sir."

00:56:05
BA: [laugh]

00:56:06
RB: And out I went, and down I went and I started running the whole place. So, Peggy, if you ever want to know where I got my management skills, that was it.

00:56:14
BA: [laugh]

00:56:15
RB: I learned fast. So anyway, that was, we were off to a whole new thing and I never did learn to run that computer. Never did. And so, one day I went down and I told him, we would talk and things. And I said, "You know, it really worries me." I said, "I've always been able to step in and do the job." And I said, "I can't do it now. I wouldn't know one button from another on that darn machine." He said, "I don't expect you to run it." He said, "That's why you got a staff." I said, "Oh. Okay." So, I was alright then. Didn't-- It didn't worry me a bit that I couldn't help people with their programs. I was all totally in administration.

00:57:08
RB [cont.]: I was in the development of all the procedures. I hiring the people. I took care of all of our purchasing. I took care of all of our time records and making sure everything was run efficient and this sort of thing. I could step in, in certain areas, and do the job; but as far as total operations, I couldn't do it. And I remember one time when I don't know what the heck they were doing but they sure as the devil weren't getting the work out. So, I went in one Monday morning and I kicked off my heels and put on my shoes that I kept there for a lot of this stuff and I told the supervisor of the day, I said, "I'm going in the machine room today." And he said, "What are you going to do in the machine room?" And I said, "I'm going to run the place." I said, "You can be replaced." So, I went in there, and I'm telling you, I work-- I worked them to death. I did. They were huffing and puffing by the time the end of the week came. So, I called

them, called the supervisors down, and I told them, I said, "Now you can have it any way you want it. If I have to do your job, I don't need you. So, you have a choice. You either go up there and do your job or get out. One or the other." "Oh, if you stay out of the machine room, we'll do it."

00:58:43
RB [cont.]: I said, "I'll stay out of the machine room. But you remember one thing: I know you can't keep this pace up. I don't expect it. I don't even want this pace. Because it'll wear you out. But you remember what efficiency is; you remember what you're supposed to do. As long as you do the job, you get the work out, and the production, I'll stay out of the machine room. But don't forget, I can kick off the heels and get back in there darn quick." Never had another problem.

00:59:08
RB: Never another problem.

00:59:11
BA: So, how many people did you supervise?

00:59:13
RB: Oh Lord. Absolutely, totally, directly, three, who were the shift heads. These were in the early days of development where your line of command was a little loose. So, I could actually go to the people that were under them and not undermine them. It was sort of a total cooperation kind of thing. As much as possible, I left the supervisors alone as long as things were going good. I never hesitated to step in. And I remember one year, I don't—oh, I must have been having some new equipment coming in or something because I was ten feet under with work. And I had a bunch of students, I [stammers] at different times, I had up to 50 students working. And they were pulling everything in the book; I mean they were punching time clocks, they were taking beverages in the computer room. Name it, they were doing it.

01:00:28
RB [cont.]: So anyway, at the end of the semester, I made a list of about 20 things that I was not going to put up with anymore. These were the things they were doing. And I put up a notice that every student that was continuing work in the summer, or coming

back in the fall, had to attend one of these meetings and if they couldn't, there would be a special session for them.

01:00:50
BA: [overlapping] Mm-hmm.

01:00:52
RB: But it was mandatory if they continued and the meeting was on paid time. So anyway, I had a couple of these sessions and I read of these things. And I said, "Now, this is no longer going to happen." And I said, "I will tell you this: if it happens, you're going to get fired." I said, "It's that simple. Follow the rules. Be okay. Get your raises. Or get fired." Well, they all understood. And I told them. I said, "I'll tell you this too. Within two weeks, somebody's going to be fired. It'll happen." Okay. Didn't take a week and true to form, it was the person I could least afford to lose. She worked midnight to 8:00 and that was a hard shift—

01:01:54
RB [cont.]: To fill most of the time because it was always a person who was sort of anti-social, didn't want to deal with the public. Because we didn't have out users in most of the time during that period. But she came in on a Friday night, it was just before the Fourth of July and she got her paycheck and she noticed it did not have a raise on it. That paycheck she got after the first of July, I think it was the third of July reflected her pay for the past two weeks, which was June. And she was upset because she thought it was [stammers], she didn't get a raise in July. So, she cut lose; and I was gone. It was a holiday weekend and I'd left the office about 4:00 that day. So, when I came in on Monday morning, I had notes on the door, I had notes in my mailbox, I had notes under the door, I had notes everywhere. Because I always drilled into my staff that I don't care what happens, we can always correct things.

01:02:54
RB [cont.]: As long as I hear it from you, we'll be okay. You let me hear it from by boss, you're in trouble. Well, I've never been a person to mix words. I've always meant pretty much what I said. I'm not very tactful most of the time, I lose in translation. I want to hit the nail on the head. So anyway, he supervisor, who was midnight to 8:00, came in early that morning to talk with me. And I said, "John," I said, "I know we have a serious problem and I know I have to fire her but I need to know what she said." And he sat there, and he said. "I'll never tell you." I said, "Why? What, what, what, what, what's

going on here?" He said, "I was in the Navy four years and I never heard such language." He said, "I won't tell you."

01:03:50
RB [cont.]: He said, "If you want to write me up, discipline me, fire me." He said, "Nothing you can do will make me tell you." To this day, I do not know what the girl said. But the recommendations came from all three shifts, who happened to have supervisors in at that particular time, getting paychecks and one thing and another. So anyway, I told him, I said, "Well, set your machines in the morning." And I said, "I'll be in at about 7:00." So, I said, "You get prepared to relieve her of her duties by 7:15 and send her down to me." So that's what we did. And she came down and I told her, I said, "I'm not going mess around with this." I said. "You're fired." "You can't do that to me." I said, " You're not that dumb to think I didn't check it out before." Anyway, she gave me all sorts of threats. And I told her, I said, "Go ahead, do whatever you want. I don't care." So, she was fired.

01:04:47
RB [cont.]: And I want you to know that I had probably, six out of, I think at that time I had eight full time employees. The rest were my 50 students. And I think I had at least six out of the eight that came in and thanked me for firing her and said, "We knew you'd do it." And I said, "I'm glad you knew I'd do it." So, you know, [stammers] there were a few tough sides. I had to go through two civil service firings. One was because he came in the building was a gun. Uh, that did not set well with me. I got word ahead of time that he was headed toward the building so I just simply called the police. And I said, "Get somebody over here." I was right across the street from the police station at that particular time.

01:05:32
BA: [overlapping] Mm-hmm.

01:05:34
RB: We were in what was called ERL - Engineering Research Lab.

01:05:38
BA: Okay.

01:05:39

RB: And I said, "Get the policemen over here right away inside the front and the back doors so the minute he steps inside the building, you can grab him." So, they did. And I went through civil—And he contested it. Went to court, of course we won. And I fired another one for everything under the sun except a gun. [laugh] That one also was one.

01:06:00

BA: Yeah. Just to kind of talk about the context here a bit. So, how many men and women were you working with in— at this time?

01:06:09

RB: How many men or women?

01:06:10

BA: Men and women. So, what was the gender composition of the lab at the time?

01:06:16

RB: Well, when I started in '52 it was all men except me. And of course, as time goes on, things develop and we got a woman in. I think one of the first we had in was someone that took care of what we called "the library." Which was what we had— we called them master tapes. They were set programs and they were on a very heavy tape that we kept in a library and if a person wanted that portion of a program--

01:06:48

BA: [overlapping] Mm.

01:06:48

RB: They simply would take it to a machine and reproduce it. That was one of the first women we had and uh, then is our 650. When we brought that in [stammers] that was when we really, as best I can recall, that's when we started hiring women on the computer area.

01:07:09

BA: Okay.

01:07:10
RB: And the 650 required tab boards on our printing machine. It was a tab board that had the wired boards. And for some reason, I had a complete mental block on these tab boards. And that was one of her jobs that did that. And then we had teletype operators that came in. And so, we gradually increased in women from about 1959 on. And I hired a lot of women as operators because you couldn't hire anyone at all in those early years that had any computer experience. If you had somebody that had teletype experience, that was the closest you could ever get. And then we went through this long period of time where the wars were on and there weren't men around.

01:07:57
BA: [overlapping] Mm-hmm.

01:07:58
RB: So, if you wanted an employee, you had to hire a woman. So, I never had any problem hiring women. Uh, that was never a problem. We [stammers] I never really had any problem hiring anybody.

01:08:16
BA: Okay. So how long were you Computer Supervisor? How long were you in the position?

01:08:23
RB: [overlapping] I was Computer Supervisor from something like around 1959 until uh, in the area of 1969. I'm not sure of the exact date, but it was in that area. And around 1969, along in there, we were going to bring in another huge computer; that was called a controlled data corporation computer. And they wanted to promote me to handle more of the administrative duties. So, that was—I didn't really want the promotion. I wanted to stay with my babies. And I didn't have too much to say about it. They wanted me so I went in then as assistant to the director of that. And one of the interesting things that I, at least I thought it was interesting, was uh, I had a boss that, [stammers] I kind of liked him. He was alright. He never really bossed me; knew better. [laugh] And uh, but he didn't like to do things, you know. So, I did an awful lot of his work. Well anyway, we were in the bucket list for this big CDC computer; which was huge. And he went on vacation and he had not written any, not one, order for the remodeling of the area for the computer to come in. He said, "It won't be in for another

year." So, he said, "I'm not going to bother to do it." And I said, "Oh. Well. Okay. It's your [stammers]" Wasn't my responsibility.

01:10:15
RB [cont.]: Well anyway, we got the word the darn thing was coming in in September. He was gone. So—and my immediate boss was gone too. So, I had a substitute boss. So, I told him, "We've got word that it's coming in." And I said, "Nothing's been done." He said, "What do we do?" I said, "Well, the only alternative you have is to put me in charge." He said, "Well, I can't do that." I said, "Well, okay then." I said, "If you bypass the computer, you don't just go down in the notch and get the next one." I said, "You go to the end of the list." So, I said "We could be several years getting this thing." So anyway, I told him, I said, "I can bring it in. That's not a problem." So anyway, he said, "Well, we'll see about it." So, he went to talk to the higher up boss. And so, the end result was that they gave me permission to bring the computer in.

01:11:11
RB [cont.]: And I told them, I said, "It's going to be costly. Because," I said, "we're going to have overtime, I'm going to get stuff ordered. I'm going to have to have stuff air shipped and all sorts of things." So anyway, I started cutting all the orders for physical plan for the remodeling of the room and everything, and things always were happening. They were trying to cut through a hole like this for cables that was 18 inches thick. Well, the drill bits kept breaking so the physical plant said, "Well, we're shut down for the day." I said, "That's not the only drill bit here in town." I said, "Within one hour, you start drilling again." And things like that, which were costly. And some of the copper gridding that I needed for the floor was in Texas. And I said, "Tell them to airlift it. I don't care-- airlift it. Get it to Chicago." So, then we got a truck ordered to go to Chicago. This, this is what I was dealing with, was this constant—Decision. Move ahead. Don't stop. Well anyway, we finished the day before the computer came in and it came in on time. We got it all established. We got it up and running and so and so forth. So anyway, we had a staff meeting and guess what? My boss got the total credit.

01:12:30
BA: Oh.

01:12:31
RB: Absolute total credit. And we had one woman in the department that quit over that. She said, "If this is the way you're going to treat women, I don't want any part of it." So,

she went, I think, she went to the Library. I'm not sure. But anyway, she, she quit and went; I was at a point of no return. I had too much invested in the years to quit. So, we had a few rough times. But uh--

01:13:01
BA: What year--

01:13:01
Unknown: What year?

01:13:02
BA: Yeah, sorry. What year was that?

01:13:03
RB: Is what?

01:13:04
BA: What year was that?

01:13:08
RB: Let's see. I can't remember exactly what year that was but I think it was shortly after '69.

01:13:16
BA: Okay. So-

01:13:17
RB: It was when we brought in what was called CDC. That was a good company and a good computer but their accounting area was terrible. I wrote a lot of contracts with them for servicing some of our computers and things. And they never could send me a right bill. And I was forever working with that so finally I got to the bill that I'd make up the bill and I'd send it to them and I'd say, "Here's what we owe you. Send me the

bill." And then I could pay it. They actually were down here one time and they offered me a job of handling the University account in Minneapolis for them.

01:13: 54
BA: Oh wow. Yeah.

01:13:55
RB: I told them, "No way." [laugh] So, I was kind of flattered that they wanted to hire—

01:14:02
BA: Yeah.

01:14:03
RB: They were serious. They were serious but no way [stammers] It was a good company but—

01:14:10
BA: Yeah. Do you—

01:14:11
RB: [overlapping] You know, we had a few aches and pains along the way with those things but generally speaking, boy, I'll tell you it was a blast.

01:14:12
BA: [overlapping] Yeah.

01:14:17
BA [cont.]: Did you ever talk to your boss about that situation? About not getting credit for all of that?

01:14:24
RB: That was a lost cause.

01:14:25
BA: Yeah.

01:14:26
RB: So why? Why spend energy? You know, why burn energy when you're not going to get any heat?

01:14:31
BA: Mm-hmm. Yeah. I just wanted to back up just for a second and ask you about ILLIAC and what your interaction was?

01:14:39
RB: [overlapping] ILLIAC?

01:14:40
BA: What you remember about ILLIAC? And that being established at the University and being built?

01:14:44
RB: Well, ILLIAC was a fabulous machine because it was the first [stammers] computer—That was owned, operated, and controlled by a university in the world. Other universities had computers, and big ones too. But back in those days, they were all owned or controlled by the federal government, with federal money. Ours was not. Ours was financed completely by the University. There may have been some grant money in it, but the federal government had no say or priority. And [stammers] it was kind of interesting because we had a group that was called um, Don Bitzer, was where—development of PLATO. Was in and that was government work. That was federal money. And we used to tease about it because we controlled the computer so they had to get our permission to use it. And Don Bitzer was a brilliant guy. Oh, just really brilliant. And I really liked him. He was a crazy fun guy. [laugh] And he used to always tease me about how I had control over things, you know; and there was never a time that I exercised any control. I— if the computer was up and running, I always pretty well managed to give them what they wanted.

01:16:19
RB [cont.]: But ILLIAC got very saturated, very quickly. It was a huge success and uh, once everything got kind of running, that sort of thing it wasn't a huge challenge from an operating stand point. The real challenges came every time we brought in a new one or we made certain modifications or we put in a new system or something.

01:16:49
BA: Mm-hmm. Mm-hmm.

01:16:51
RB: [overlapping] But [stammers] I enjoyed every minute of it. Absolutely every minute of it. And I still do, thinking about it. And one of the unique things was you know, how when you're in meetings and working and you're talking about things, they say, "Well, we used to do it this way." Or, well, we that and it didn't work." You know, you have that in all your meetings, I know. We didn't. We never had tried whatever we were talking about. Everything was new. Always new. And they never had a staff meeting if I couldn't make it because I was the person that had to play devil's advocate. And we'd have a staff meeting, and I don't know, anywhere from six to ten people and somebody-we'd start breezing about some idea we were thinking about and so on and so forth. And my job, at that point, was to tell them all the reasons why we couldn't do it, or shouldn't do it, or we would get into or whatever. And some of my ideas were far out but still, that was my job. So, if the decision was to either table it or not do it, why, that was the end of it. If the decision was made we're going to try it, if we got into trouble, guess who had to pull us out? Me. So, that was always a challenge.

01:18:20
BA: Mm-hmm.

01:18:21
RB: And that came up quite frequently in different things because we were always trying to do better. We were always trying to improve. We were always trying to get faster. We were always trying to get more efficient. And that was what I loved, was that part of it.

01:18:35
RB: And so, we really had a blast. We had people come from all over the world to observe our practice and things. And I never will forget one year, we had some kids—Well, they weren't kids. They were grown people from California; and they had problem. And they were talking to me about it. And I said, "My God. We solved that thing two years ago."

01:18:57
BA: [overlapping] Hmm. Mm-hmm.

01:18:58
RB: And well, "How did you do it?" And I told them. And they said, "Oh, my God. It's so simple." I said, "Yes. It is." But they hadn't. They just didn't have me.

01:19:07
BA: [laugh] Yeah.

01:19:08
RB: Anyway, it's, you know, it was fun all the way. Just a few heartaches here and there. You know. But—

01:19:17
BA: [overlapping] Yeah. So, in 1969, or after 1969, rather, what was the position that you occupied then into the '70s?

01:19:29
RB: That was administrative aid.

01:19:30
BA: Administrative aid. Okay.

01:19:31
RB: [overlapping] Yeah. Administrative aid.

01:19:32
BA: Okay.

01:19:33
RB: I think I was the second person in the University to be named to that position.

01:19:38
BA: And how long were you in that position for?

01:19:41
RB: Until I retired.

01:19:42
BA: When did you retire?

01:19:44
RB: I retired February 28, 1984.

01:19:47
BA: [unintelligible] 1984. And so, between 1970 and 1984, could you talk about, kind of the work that you did in that period?

01:19:59
RB: Yeah. [stammers] I kept time records.

01:20:05
RB: Sick leave, overtime, all that sort of thing.

01:20:08
RB: Acted somewhat as a consultant, and a shoulder to lean on and all that sort of thing for the whole department, regardless of what it was. Anybody could come in and cry on my shoulder. My job was to solve it if it dealt with work and have sympathy if it didn't.

And I didn't all of the approval of payments for all of our contract for engineering. We contracted with controlled aid in some of these companies for some of the engineering. Our own staff did a lot of the engineering. I did all of the— I wrote all the bids and the purchasing. I helped with the bids on the big computers. I didn't do those alone but all of the other bids on minor things, I did. And did all the purchasing and the payroll and interacted with all the various departments on whatever problems there might be. If there was any kind of a problem, any place, it was my job to see what could do about it and to see whether or not somebody higher up needed to be brought in on the problem.

01:21:27
RB [cont.]: Most of the times I could solve them. You know it's—I—Practically in every step through the computer field, I created my own job. I made my own work. I made my own plans. And the other neat thing was, really and truly, I never really had a boss. There was always somebody for me to report to. But again, like Dr. Snyder said, he was too busy doing his own job he didn't have time to worry about mine. And that was pretty much the whole thing through the whole computer career. I had to solve my own problems. And did. I made wrong decisions now and then.

01:22:20
BA: Mm-hmm. Yeah, but you got to direct a lot of your own work then, in a lot of ways. Yeah?

01:22:24
RB: [overlapping] Absolutely. Absolutely. That's the reason, like today, she'll tell you, I want to manage everything. [laugh]

01:22:34
Unknown: Right.

01:22:36
BA: So, it sounds like, yeah, you were able to work able to work independently a lot. But I also wanted to ask you, do—when you reflect on this time, do you feel that you have anybody who was a real mentor to you that had— that you would consider a mentor in your career?

01:22:50
RB: Not really. I had people that inspired me. Which is a little bit different than a mentor.

01:22:54
BA: Yeah.

01:22:55
RB: Most of the people I worked with inspired me. I always had the urge to be helpful. In fact, for many years they called me "Mother." I mothered everybody at work but I had a fine line when it came to outside of things.

01:23:19
BA: [overlapping] Mm-hmm.

01:23:21
RB: I didn't go drink beer with the boys; things like that. I—was kind of a fine line. One of times on the early days, must have been the 650. I can't remember for sure. Anyway, in some of the early days [stammers] everybody was 20 feet under and we had one of our most talented people, extremely loved, well liked. Everything positive. Uh, became ill with cancer. Young guy, less than 30 years old. And everybody looked up to him, respected him, and all this sort of thing. And he died. I went over to the hospital and saw him. I was with him several hours before he died and he wanted to tell me something. I—we never did figure out what it was he wanted to tell me. But his wishes were that there be no funeral. No, no nothing. And he died on a Friday. So, we went into on Monday and a couple of weeks we couldn't function. We absolutely could not function.

01:24:40
RB [cont.]: So, I finally said, in my usual way of making my own job, "This is enough. 4:00 on Friday we're meeting at Prim's." I don't know whether or not Prim's is still there or not. But it used to a college hang out, like Bidwell's and some of these other places around. But it was over on—

01:25:03
Unknown: I think it's Murphy's now.

01:25:04
RB: What? Huh?

01:25:06
Unknown: Murphy's.

01:25:07
Unknown: On Green Street? Is that the one?

01:25:07
RB: No, no. It's over—it was over on either Goodwin or uh, Matthew. Someplace like uh—

01:25:14
Unknown: Doesn't sound familiar then.

01:25:15
RB: Well, anyway—

01:25:16
BA: [overlapping] Okay.

01:25:16
RB: It was a place called Prim's.

01:25:17
BA: Mm-hmm. Prim's.

01:25:19

RB: [overlapping] It was one of the hang-outs of the students. And we had practically the whole place, except for essential people that had to be at the lab, because we were running 24 hours a day. Everybody met and everybody had a coke or beer or whatever they wanted and boy, we raised cane. I mean, we just were celebrating his life and toasting him and all this sort of thing. We went back to work on Monday morning, whole new place. That was the kind of the thing that I did. I did all the planning of the parties and one thing, and another two, in between it. We used to have big potlucks. Well, actually, we didn't have potlucks because I did all the cooking. But we'd have parties and coffee hours, and uh—I was a social gal.

01:26:09

BA: Mm-hmm. I'd like to switch gears, just for a minute here, and ask you a few more questions about how your personal life intersected with your profession life, if I may? I was wondering if it would be alright if I asked if you had any children while you were working at the University during this time?

01:26:27

RB: Well, I had no personal life for a long number of years. I was absolutely 100% dedicated to the computer. I finally married at the age of 41. Which was something like, I don't know how many years it was, um, married. Age 41. By that time, I had given up babying the computers. I was into the administration work. I had no children. Later, well, that husband died and I remained alone for 30, 40 years. Whatever it was. And, married and to this marriage came a son who I consider my son. We don't use the word "step-son." I correct people if they try to use it. He's not my step-son. He's my son. He was already an adult, but I made him a bigger adult.

01:27:28

RB [cont.]: [laugh] So anyway, I do have one son that I love dearly. [stammers] But I had no real personal life, with the computer, for many years. Gave up everything for it and when I retired, my goal was to leave the computer behind. Which I did. And retied the end of February and by the middle of March—I was totally involved in what was called a Symphony Guild of Decatur. Which is a fundraising unit to support the Millikin-Decatur Symphony Orchestra and I am still very, very deeply involved in that.

01:28:14

BA: Mm-hmm. So, I wanted to ask also, when you left—when you retired in 1984, how

would you say, from your perspective, the ways in which being a woman in computing and information technology changed from the time when you began up until the time you retired? How would you talk about that?

01:28:38
RB: Well, the door was fairly well closed to women in many, many fields back then. And we all know there's been tremendous movement for women in all fields; all the way from engineering to space and all of this. And finally, I think, the world has recognized that women can do most anything a man can do if they can handle the physical part of it. I mean, some men can lift a huge amount and most women can't. But, some can! So, there's been tremendous movement. The world is wide open for women not only in computing, but everything else. As you know. You know, there's no end to it. At all. And, and it— that's good.

01:29:29
BA: Mm-hmm. Mm-hmm. So finally, I just have a last question, are there any topics or questions that I might have asked you about further or that you'd like to talk about before we end our time?

01:29:43
RB: Well, I don't know. I can talk another 20 minutes on any subject you want to pick. [laugh]

01:29:47
Unknown: Did you want more about ORDVAC because we'd talked about that, and that's—

01:29:50
BA: Sure, yeah. Yeah.

01:29:51
RB: Oh. Oh. Okay. ORD—ORDVAC. When I was hired, and started working September 2nd.

01:29:56
BA: Okay.

01:29:57
RB: September 1st was Labor Day. Just shortly prior to my coming in there, the last few weeks in August, ORDVAC was actually located here in Champaign-Urbana. They took it apart in large sections and they put it on a flatbed truck and took it to Aberdeen, Maryland. Which is where the Ballistics Proving Ground is for the government. This computer was designed to be specifically for ballistics. Okay. We were connected with Aberdeen—Here. I ran the test on ORDVAC through wires.

01:30:45
BA: Hmm. Wow.

01:30:46
RB: And I did the testing on ORDVAC. And after we successfully ran all the tests, our people came back here and that's when they finished up, a little bit, on ILLIAC. ILLIAC was almost completed when they took ORDVAC out. It took very little for them to complete it. So, then I ran the testing on ILLIAC on September 2nd and it ran eight hours on the first testing, I think; and my next testing on it ran 13 hours. So, it took us a couple of days to get the length of the runs but in pro—in the programming, whenever there was an error in the programming or if the machine malfunctioned why, everything stopped. And one of the, I thought it was interesting things with, ILLIAC was built with what we call chassis.

01:31:54
RB [cont.]: And ILLIAC, as well as ORDVAC, was vacuum tubes. Just like you had, years ago, in radios and things. And if a tube got weak or got bad, we got an error and there were ways of pinning it down to the chassis. They would check the [laugh] check the chassis. We had a rod about like this. It was made of rawhide and they would touch it to the chassis. And we had what was called a rawhide hammer, and I had the darn thing for many years until I gave it to one of the people years ago—

01:32:40
BA: [overlapping] Mm-hmm.

01:32:40
RB: That worked for me. But it was a hammer where the head of it was about this big and it was rolled rawhide and the hammer handle was wood. Well, they would take this long rod and touch it to the chassis and tap it to see if the tube would flicker.

01:33:00
BA: Huh.

01:33:01
RB: That was how we tested it.

01:33:03
BA: Wow. [laugh] So why was it made out of rawhide? What was the reasoning behind it?

01:33:10
RB: Well, you couldn't use metal.

01:33:11
BA: Ah. Okay.

01:33:11
Unknown: Uh huh.

01:33:12
RB: Or anything.

01:33:13
Unknown: Anything with sparks.

01:33:14
RB: So, you see, yeah, we had to use something that was—

01:33:15
BA: [overlapping] Okay.

01:33:16
RB: So [stammers] that's how we—

01:33:17
Unknown: You didn't want to make it flicker. I mean, if it's going to flicker—

01:33:20
RB: Right. Right. [laugh] Yeah. We didn't want to add any problems.

01:33:23
BA: Didn't want to electrocute yourself. [laugh]

01:33:24
RB: But—But there were things about ILLIAC that were unique to that type of computer. For one thing, you couldn't allow it to get very hot inside.

01:33:33
BA: [overlapping] Mm-hmm.

01:33:35
RB: So, every hour I had to check thermometer readings and if a—if one of those thermometer readings hit a certain point, I was to shut down immediately.Absolutely. Absolutely right now.

01:33:50
BA: Oh wow. Yeah.

01:33:51
RB: I didn't have to even call anybody. I just boom! You know. And had to do it. And

uh, you know, you know just had to watch that carefully. And um, but we had a lot of development on ILLIAC that we— Donald Kerst developed the bubble changer. But through all of this, some of the interesting people. John Bardeen developed the transistor. And that was the next step in the computers. And the transistor reduced the size of the computer substantially because one transistor could replace the whole chassis or whatever. And John Bardeen was a gentleman. He was a wonderful, wonderful man. He just—I didn't get to know him very well but I did get to know him a little bit. And uh, everybody loved him.

01:34:47
BA: Yeah.

01:34:48
RB: He was a sheer brain.

01:34:51
BA: So, did you get to know Donald Kerst at all?

01:34:54
RB: I knew him.

01:34:56
BA: You did? Yeah.

01:34:56
RB: Oh yes. Yes, yes, yes, yes. He was—

01:34:58
BA: [overlapping]What was your interaction with him like?

01:35:00
[Non-interview dialogue]

Part 2:

00:00:00
RB: In the early days, I had a great deal of difficulty getting raising for our full-time employees. So, they decided they wanted to go union. Well, it really, really hit me hard because I really worked hard for my employees. And the union negotiator on the University's side told me that, "Ramona, don't take it personally." He said, "The only thing they're asking for is money." He said, "They have no complaint of any kind."

00:00:36
BA: [overlapping] Mm-hmm.

00:00:37
RB: "On anything." But he said, "We'll go ahead and we'll do things like defined shifts and all this kind of stuff." And so, [stammers] anyway, that was the way that went. The steward for the union, after everything was done, happened to be one of the engineers that had worked in this, in DCL. So, after everything was over with, he came over and talked to me and all this kind of stuff. And I said, "Well, Virgil, you think we're going to get along or not?" He said, "Sure." He said, "I'll give you your way all the time." [laugh] I said, "Now you're got the idea." I never had a union problem. Never had a union problem. And in fact, one time, when we were doing the negotiations, I only had to let one person off on a shift to do it. But there were two that wanted to, and I said, "Well, I have no objections if want to. One I have to let off, and the other one—"

00:01:47
BA: [overlapping] Mm-hmm.

00:01:48
RB: "If you want to come on your own time, that's great." I said, "I can't let you off of paid time." I was sorry and we had finished negotiations pretty much and up to the last day, and we figured we could finish it up. So, they wanted to meet at 3:00. Normally, we left—met earlier. And I said, "Well, I don't object to 3:00 if that's what everybody wants but I have a shift change at four. Which means one of those two guys, if we're not

finished, has to go over and take over." And I said, "I don't care which one does it. They're both qualified to do it." I said, "They can decide. I don't care." So anyway, we finished up negotiations and I looked down at my watch and it was about quarter after four and both boys were sitting there. And I said, "Oh. I said one of the two of you need to run over and relieve the shift."

00:02:42
RB: Well, this one guy, who was really the instigator of the union thing, sat there chomping on his cigar. God. [laugh] And uh, kind of pushed back. He said, "Well, it's all under control." "What do you mean, 'It's under control?'" He said, "I got it under control. What do you mean?" Well, the big negotiator that was here from Chicago, was sitting down at the end of the table chomping on his cigar. And I pointed a finger at him, and I said, "And you shut up. You're not part of this now. I'm running the show." I said, "You didn't negotiate my job and hell will freeze before you ever do." So, I said, "Just shut up." I said, "One of the two of you, get up out of that chair and go over there and take over that shift right now." He did. I found out later that this kid had called in to have the day supervisor stay over on overtime. We had just negotiated that overtime had to be approved by me.

00:03:58
Unknown: Mm.

00:03:59
RB: If I was available. If it was an emergency, and they could justify it, I would approve it retroactive. So, anyway, I found out that. I was available. He didn't get authorization. So, I got ahold of Virgil. I said, "Virgil, you have to pay this guy two hours of overtime. I'm not going to do it." [laugh] "Your men did it."

00:04:26
BA: Mm-hmm. And what year was this?

00:04:26
Unknown: [overlapping] Mm.

00:04:30
RB: Oh. It had to be in the area of 1965-67.

00:04:41
BA: Mm—Okay. Alright.

00:04:44
RB: Along—along in there someplace.

00:04:44
BA: Mm-hmm.

00:04:46
RB: And anyway, the union paid him.

00:04:52
Unknown: [overlapping] Hmm.

00:04:52
RB: I told him. I said, "We just negotiated a minimum of two-hour overtime." Before the agreement, we didn't have a minimum. You know, if they—They worked, they were paid for whatever they did.

00:05:04
Unknown: Mm-hmm.

00:05:05
RB: Anyway, I, [stammers] Virgil agreed with me. I had no, I had no problem. I never had a real union problem. This same kid, though, was in trouble several times. He'd start calling on sick leave and one thing and another. And I knew he was not doing right, so—

00:05:21
RB [cont.]: Everybody was wondering when I was going to catch on. Well, I had caught on a long time ago. Well anyway, I got fed up with it so I called the union— University Union person and I said, "I got a sick employee." I said, "I think we'd—He lives alone. I'm worried about him. I think we'd better send a University nurse over and check on him." So, he called in that he'd painting all day and he was sick from the paint fumes and couldn't come into work. So, the union, University union man, not the steward, but the University negotiator got the nurse and went over there and he was all dressed up. No sign of paint and one thing and another so, that took care of that problem. So, came back with the recommendation that he be written up and disciplined.

00:06:07
BA: [overlapping] Mm-hmm. Mm-hmm.

00:06:09
RB: So, I called him in and told him. I said, "You're trying to play me for a fool." And I said, "That's a mistake." And I said, "This time, I'm not going to write you up. But," I said, "You be sure and toe the mark because," I said, "I'll be looking."

00:06:22
RB: And I said, "The first time you get your foot out of step, you're going to get written up." [stammers] I didn't pull any punches with them. You know. I told them what was going to happen and they took it to the bank. I was tough. [laugh]

00:06:38
BA: I wanted to ask you about two other people to see if you had interacted with them at all while you were here at the University. Did you know Geneva Belford?

00:06:48
RB: Oh. Yes.

00:06:49
BA: Yes. Could you talk about her?

00:06:50
RB: Yes, and her husband. Yes.

00:06:52
BA: R. Lind Belford, yes.

00:06:52
Unknown: [inaudible]

00:06:54
RB: Where they chemistry?

00:06:57
BA: He was in chemistry. She was in computer science, but she started off in chemistry.

00:07:00
RB: Right. Right. Right. They're both dead now.

00:07:02
BA: Yeah. Yeah, Geneva just passed away recently.

00:07:05
RB: Yes. Uh-huh. Uh-huh. Yes.

00:07:06
BA; [overlapping] I just—yeah—And we, the archives, actually just got her papers; which is really great.

00:07:12
RB: [overlapping] They were a wonderful couple.

00:07:16
RB: [overlapping] Just a wonderful couple. Yes. Mm-hmm.

00:07:18
BA: Did you—so did you interact Geneva at all when she came to the DCL to do any research because she did, I think, some work on ILLIAC?

00:07:27
RB: She did it on ILLIAC. I don't think she was on any other computer, but she could have been.

00:07:34
RB: But I know she was very active on ILLIAC. Oh yes, I, I knew them well.

00:07:36
BA: [overlapping] Mm-hmm. Mm-hmm. And one other person I wanted to ask you about, who would have been here around the same time is Heinz von Foerster, who was an electrical engineering professor. I don't think he did any work on ILLIAC or would have come to the DCL very often but—

00:07:53
RB: That name doesn't ring a bell at all.

00:07:54
BA: Okay. Okay. Alright. Just wanted to check. Just in case.

00:07:58
RB: Mm-hmm. Yeah.

00:08:00
BA: Well, yeah, I guess those were the only questions that I had. Unless there was anything else you wanted to talk about or that you think we didn't capture. [laugh]

00:08:10
RB: [overlapping] No, I, I uh, it was wonderful. It was fabulous. It was an opportunity that probably never will exist again in any field. Maybe not. I mean, technology is—You know, really going. And I know a number of years ago we had a fellow, his name was Cliff Carter. And again, he was—we had smart people. You know? And he was really smart. And we used to gather in his office about 4:00 on Friday, often. And I can remember when they were there [stammers] in our meetings and we were talking about development of different things. And he said, "You know," he said, "If we really knew what was on the drawing board, we'd be scared to death." Think about it.

00:09:03
Unknown: Mm-hmm.

00:09:03
BA: Yeah.

00:09:05
RB: By the time you walk out of the door, from purchasing your phones [laugh] or whatever you buy, it's obsolete.

00:09:14
Unknown: Mm-hmm.

00:09:14
BA: [overlapping]: Mm-hmm. Yeah. That's—yeah, moves very fast.

00:09:18
RB: Uh-huh.

00:09:20
BA: Yeah.

00:09:20
RB: It is. [stammers] It's a little bit scary for me.

00:09:22
BA: Mm-hmm. Have you seen Blue Waters, the super computer; which is off of Oak Street? Have you driven by there? It's right across from sort of Assembly Hall or State Farm Center rather but yeah, Blue Waters is like, the petabyte computing service that's available on campus. I was just curious if you had—

00:09:46
RB: [overlapping] No, I haven't even been over in the other buildings. For some time. We were in what was called, "Engineering Research Lab."

00:09:54
BA: [overlapping] Mm-hmm.

00:09:54
RB: Which was across the street from the police station. And then we built one fourth of what was called Digital Computer Lab with federal money. And that was very interesting because we had a $250,000 grant from the federal government to do it. And I was very involved in the design of that building. And when the bids went out and then the bids came back in they were all way, way, way, way high. And so, Dr. Meager and I talked about it and I said, "What the heck's going on?" I said, "This is terrible." So, he got with the architects and they said, "Well, we can build the building in Chicago for that." I said, "Where in the hell does he think we're going to build it?" I said, "We hadn't anticipated moving to Chicago."

00:10:43
BA: [laugh] Yeah.

00:10:44
RB: So, I had to take the blueprints and start stripping out. Lower the tile on the floor and all these things.

00:10:53
RB: And then, we built another section which was one fourth and then eventually they built the other half of it and got it done. I haven't been in that building for a while. But one point that you never did touch on was that—We started out as the Digital Computer Laboratory as a little branch of Graduate College. And we had two functions. One was service and one was engineering. Well, eventually what happened was, it was broken into two sections.

00:11:24
BA: Okay.

00:11:25
RB: And it became Department of Computer Science.

00:11:27
BA: Oh. Right. Yeah. Okay. Okay. Yeah.

00:11:30
RB: And the service became Computing Service Office. Two separate things.

00:11:33
BA: Okay. The CSO, right? Yeah.

00:11:36
RB: [overlapping] Right. Right, CSO.

00:11:38
BA: Mm-hmm. Mm-hmm. Yeah.

00:11:39
RB: Yeah.

00:11:40
BA: Hmm.

00:11:41
RB: So, that I think is an important point there.

00:11:47
BA: [overlapping] Yeah.

00:11:48
RB: The development of computers went with computer science. And the service, which was more of an academic thing, was a service area. And that was what I was involved in all this time, was the service to the University. And [stammers] then [stammers] they went ahead and did more development, that sort of thing and the people in that area— Are some of the most brilliant people in the world. [stammers] I think. I've known a lot of them and I'll tell you, I never saw such minds as some of those people. It was so wonderful working with people that, and you know, almost all of them—Were such kind people. You know?

00:12:45
BA: Yeah.

00:12:46
RB: And I remember one time when I was having a heck of time learning some of this stuff. I mean, I was reasonably smart, but you know, I mean I wasn't any brain when it came to technology and stuff. Mine was more in efficiency and ways of doing things, and management. And all of that. I mean I'm no brain. And this one guy, his name was Gene Leidner, and he was a resident of Champaign-Urbana. [stammers] I not exactly sure what his family did, but they were well known at the time. And he came in with a book of some sort, sat down at my desk with me, and he said, "Now, you're going to learn this." [laugh] I said, "I don't think I can." And I was feeling pretty low. And he said, "Yes. You can." And so, he started in, and boy, I tell you he was with me every step of the way for about four or five years.

00:13:47
BA: Yeah.

00:13:48
RB: Really neat kid.

00:13:49
BA: Hmm.

00:13:59
RB: Really neat kid. Smart of a whip. [laugh] Yeah.

00:13:54
BA: That was—yeah.

00:13:54
RB: So, you know, it was— it was fascinating. It was fun. It was challenging. It was interesting. It was—You had growth in it [stammers] and the finest people in the world. I've been retired 38 years. I still get a bouquet of flowers on my birthday from one of the kids I hired.

00:14:13
BA: Aww.

00:14:14
RB: Never misses a birthday.

00:14:16
BA: Hmm.

00:14:17
RB: And I'll get two or three sometime throughout the year—

00:14:20
BA: [overlapping] Wow.

00:14:20
RB: With a card that says, "Just thinking of you." Or—"Just because." Or whatever.

00:14:25
BA: That's great.

00:14:26
RB: 38 years and I still do!

00:14:28
BA: That's great.

00:14:28
RB: [overlapping] I still get phone calls from them.

00:14:29
BA: Yeah. Wow.

00:14:29
RB: I must have done something right.

00:14:31
BA: Yeah. [laugh]

00:14:32
RB: Not sure what, but—

00:14:33
BA: Wow.

00:14:34
RB: I got something right, I think. [laugh] But—

00:14:37
BA: That's great.

00:14:38
RB: It was great. Wouldn't change a day of it.

00:14:42
BA: That's wonderful. Well—

00:14:43
Unknown: What about the papers?

00:14:45
BA: Oh, yes, did you want to talk about some of the materials you brought with you? I can leave this on (referring to recorder)

00:14:59
RB: [overlapping] Oh, well. Just for kicks. Here's a little thing I brought for you. That's been one of my things that I've—[laugh] Okay. Here is a publication.

00:15:01
BA: Barbara Burrow.

00:15:03
RB: That's me.

00:15:04
BA: Oh my gosh! Oh yes, we have that—that photo. I have to bring this up on the computer. We have that photo in the archives. Oh my gosh! [laugh] Now we can identify it!

00:15:14
Unknown; We didn't know who was in the photo, now we know it's you!

00:15:16
RB: That's me. That's ILLIAC.

00:15:18
Unknown: Oh, yes. I was just—Do you have any pictures of you with ILLIAC was my first question?

00:15:19
RB: [overlapping] And, and, and there. Let me show you here. [laugh] Okay. This is— This is what is called the— [laugh]

00:15:29
Unknown: That's going in the book! You're going to be in the book!

00:15:29
RB: [overlapping] This is what is called the input output rack.

00:15:34
BA: [overlapping] Oh, my gosh.

00:15:37
RB: That was where all of the operations took place. And these are the chassis through these windows and each of these had—everything was in binary. Everything was in binary.

00:15:49
Unknown: Mm-hmm.

00:15:50
RB: And I had to learn to read. I got so I counted change in binary, so but anyway, this was taken sometime between '52 and '57, I think. I'm not sure just exactly what year. And this is the table here where the soldering iron was that burnt his pants. [laugh] And [stammers] on this end, you can't, you can't see it, but on this end of the—This is not attached. But on this end is, right about here, is where the thermometers were that I had to read all the time.

00:16:29
Unknown: [overlapping] Oh, yes.

00:16:31
RB: And the switches were right on that panel of the computer.

00:16:36
Unknown: Okay.

00:16:37
RB: That I had to shut down quickly. And um, let's see. Okay. Here's another publication that shows it.

00:16:58
Unknown: Next one. That one, no?

00:16:58
RB: And uh—

00:17:01
BA: So now we, well, actually, let me bring this up quickly. Do you recognize this woman?

00:17:07
RB: Yes.

00:17:07
BA: Caroline Brown?

00:17:07
RB: Yeah, um--

00:17:09
Unknown: Caroline Brown?

00:17:13
RB: I don't recognize—Caroline Brown?

00:17:15
BA: She was a—

00:17:17
RB: Yes.

00:17:18
BA: Teletypewriter operator.

00:17:19
RB: Yeah. Yeah. Yeah. Here's—

00:17:21
BA: [stammers]

00:17:23
RB: Here is what they wrote about me when I retired. Let's see, I think it starts, yeah, it's—That's what they wrote about me.

00:17:43
RB [cont.]: Here's the letter I got from my friend Steve Finwiz, when I retired.

00:17:49
BA: Oh wow.

00:17:54
RB: Here's my letter I got from my friend George Beam when I retired.

00:18:01
BA: Hmm.

00:18:03
RB: And just for kicks, I brought you some laughing material.

00:18:08
BA: [laugh] Oh.

00:18:09
RB: These are pictures of the retirement party. This was the head of Computer Science at the time I retired.

00:18:15
BA: Mm-hmm.

00:18:16
RB: And these are pictures when I was— these are close to my retirement when this took place. I think at one point, I'm pointing to the calendar in one of them. I'm not sure.

But anyway, but these were—if you want those for any reason, you can have them. I've got more at home.

00:18:34
BA: Oh wow. That would be wonderful. Thank you. If you don't mind. [laugh]

00:18:36:
RB: [overlapping] I got more at home.

00:18:38
BA: That would be fantastic.

00:18:39
RB: But uh—

00:18:40
BA: And so, this was around 1984, then?

00:18:41
RB: What?

00:18:42
BA: These photos were around 1984? The year?

00:18:44
RB: Yes. Yeah.

00:18:45
BA: Yes. Okay. Okay.

00:18:46
RB: Yeah, they were close— This I brought to you just for kicks. This has nothing to do with computers but this was an article that one of our, Bob Halston, wrote this.

00:18:56
RB: I think [stammers] he did this. They were talking about all the travels I had done and showing all the things, I had brought from different countries. I don't know what happened to the rest of this. There was another part of this article. And somehow or another it got disappeared but this is an article that, on the computer, was in the *News-Gazette*. And this gentleman is the Mr. Huffman I was talking about that was also an operator.

00:19:22
BA: [overlapping] Okay. Okay.

00:19:24
RB: And you can tell, obviously, he's quite a bit older than I am.

00:19:26
BA: Yeah.

00:19:28
RB: At least I think you can tell it in the picture.

00:19:31
BA: [overlapping] Mm-hmm.

00:19:31
RB: Because when I went the computer lab to work, I was about 24.

00:19:36
Unknown: Mm-hmm.

00:19:36

RB: Along in there someplace. But that's another picture of—

00:19:38

BA: Mm-hmm. I don't mean to step of here, I just want to find that photo that we have.

00:19:42

RB: Well, I got all sort of memorabilia. I even got the prayer they said at my retirement party. [laugh]

00:19:46

Unknown: Aw.

00:19:49

RB: Let's see. Oh, this is, this is the one that was—Oh, this is, this was written by one of the gals that I hired that, she wasn't an engineer but she was a technician and worked on our machines. And that's what she wrote about me when I retired. So, I just happened to get into a box the other day that had all these things in it.

00:20:18

Unknown: Well, you did good.

00:20:18

BA: Okay, so is that you?

00:20:19

RB: That's me!

00:20:20

BA: That's you. Okay. I knew we had a picture digitized.

00:20:23
RB: [overlapping] That's me.

00:20:25
BA: Alright. And so—

00:20:25
Unknown: [overlapping] Who else is in the picture?

00:20:26
BA: And so—Yeah. Who wrote the other two?

00:20:27
Unknown: And that's different than this one.

00:20:28
RB: Yeah. My skirt was gray and my blouse was white and my hair was brown.

00:20:33
Unknown: Taken the same time, I think.

00:20:33
Unknown: Yeah.

00:20:35
Unknown: Who are the two men in the picture?

00:20:36
RB: [overlapping] Oh. Um, the one on the right, I'm almost certain—Do we have that on something besides that? I'm sure that's Jack Nash.

00:20:53
BA: Jack Nash?

00:20:54
RB: Nash. N-A-S-H.

00:20:56
BA: Okay.

00:20:56
RB: He was a mathematician and he was assistant to Meager.

00:21:00
BA: Mm-hmm.

00:21:02
RB: I'm pretty sure that's Jack Nash. The other guy, I can't get enough of. I think it's Ted Chapin, but I can't get enough of his face to know for sure. But I think it's Ted Chapin.

00:21:13
BA: Okay. Huh. Wow. That's great that we can identify you in that photo. [laugh]

00:21:20
RB: That's me.

00:21:21
BA: And I think we have a couple of other views that you might be appearing in. I'll have to look, but I think we might so that's really exciting.

00:21:28
Unknown: Mm-hmm.

00:21:29
BA: Huh. Wow.

00:21:31
Unknown: Who is this guy?

00:21:34
Unknown: This one's different than the other.

00:21:35
RB: I think that's Ted Chapin.

00:21:37
Unknown: You think that's Ted Chapin, which could be the same guy on the left up there?

00:21:41
Unknown: Yes. The shoes look the same.

00:21:43
BA: [overlapping] Hmm.

00:21:44
Unknown: He has a jacket on here and it looks like it's off there.

00:21:46
RB: Well, they were taken at different times.

00:21:47
Unknown: Well, look, you got the same skirt on honey.

00:21:47
Unknown: [overlapping] Oh, it's not?

00:21:50
Unknown: So, I think it was taken at the same time.

00:21:50
RB: Oh, well. Well—

00:21:51
Unknown: [overlapping] Yeah, it looks like you have on the same shirt and skirt.

00:21:51
Unknown: [overlapping] Yeah, you're the same—

00:21:54
Unknown: Although, you—did you always wear glasses? Because in that picture it looks—

00:21:59
RB: Yeah. I guess they were taken at the—Yeah, they were taken at the same time.

00:22:02
Unknown: Because in that picture don't you have on glasses?

00:22:03
RB: [overlapping]: This is—this is Ted Chapin—I'm sure. I'm sure that's Ted Chapin.

00:22:09
Unknown: And so that must be the guy on the left.

00:22:12
Unknown: Do you have glasses on in that picture?

00:22:13
RB: What?

00:22:14
Unknown: Glasses. Do you have glasses on?

00:22:16
RB: Oh, yes.

00:22:18
Unknown: You always wore glasses?

00:22:20
RB: Do I have them on there?

00:22:22
Unknown: No.

00:22:22
RB: Ah. I probably just took them off.

00:22:23
Unknown: Oh. Okay.

00:22:24
BA: Oh. Okay. Yeah Huh. Oh. That's amazing. [laugh]

00:22:30
RB: But I know that's me. There's no way that could be anybody else.

00:22:33
Unknown: Uh-huh.

00:22:35
RB: You know, [stammers] and I'm sure that's Jack Nash.

00:22:37
BA: [overlapping] Mm-hmm. Hmm. Wow. That's great. Alright—Well, thank you so much, Ramona. This was amazing and we really appreciate your time and, and sharing your experience.

00:22:47
RB: Oh, well. Anyway—is there any of this that you want to keep?

00:22:51
Unknown: Maybe make copies of?

00:22:52
Unknown: Yeah.

00:22:52
RB: [overlapping] Or take copies of or anything?

00:22:54
BA: Yeah. The letters and the photos would be great if you would be willing to.

00:22:57
RB: [overlapping] Okay. Alright.

00:22:58
BA: And then that too, I'm not sure we even have a copy of this.

00:23:01
RB: Okay. I don't, I don't need that back.

00:23:04
BA: Okay.

00:23:05
RB: You can have that.

00:23:05
BA: [overlapping] Okay. Okay.

00:23:06
Unknown: Well, wait a minute. I haven't seen it. [laugh]

00:23:07
Unknown: Oh, yes. No, this has a poem, "An Ode to Ramona," in i..

00:23:09
RB: Honey, it's, it's, it's the same thing I gave you, only yours was on a piece of paper. At any rate, I got a lot of copies of that at home. [laugh]

00:23:19
Unknown: Alright.

00:23:20
BA: Whatever, yeah, you're, comfortable leaving there.

00:23:20
RB: [overlapping] So, you can have that and you can have these pictures if you want.

00:23:22
Unknown: [overlapping] So, put it in the archives.

00:23:25
BA: Perfect.

00:23:25
RB: [overlapping] I have duplicates of those.

00:23:26
BA: Wonderful. Thank you so much.

[Non-interview dialogue]

<p style="text-align:center; color:red;">End of interview</p>