



Oral History of Lynn Ritchie

Interviewed (via online video conference) by:
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Ritchie: Hi.

Brock: Hi, Lynn. How are you?

Ritchie: I'm okay. We're basking in amazing weather over here.

Brock: And is it, like, just beautifully warm and clear or?

Ritchie: Yeah. Yeah. And clear and sunny and it's almost never like this for so long.

Ritchie: You can't really count on it, so.

Brock: Yeah.

Ritchie: It's almost too hot.

Brock: Well, thank you for agreeing to do this with me. And I have set a digital recorder to record our conversation.

Ritchie: Okay.

Brock: So let me just check, because I think-- Let me just make sure it's running, that it's--

Ritchie: Okay.

Brock: Yeah, it looks like it's running so that's all set.

Ritchie: Okay.

Brock: And when you get a chance if you can send me that release form, that would be great.

Ritchie: Yeah. I just printed it, so, yeah.

Brock: Thank you. And did you have a chance to listen to the recording that I did with your [brothers, Bill and John Ritchie]--

Ritchie: I did. And it's, one of the things that really struck me was, A, how you obviously were very well-prepared with questions. But also how because of our various positions in the family, how-- and I knew this already-- but how we all have a different take on things. And I mean, the fact that Dennis [Ritchie]

was just two years older than me, so we really kind of grew up together. But then-- and really through college, even, but then I went off to England or was never back in the States.

Brock: Right.

Ritchie: But then Bill, especially, got the amazing years with Dennis.

Ritchie: You know, when Dennis was doing his major work. Not that Dennis was talking about it, but.

Brock: Right. Well, that was one of the questions I had today-- that I realized that I hadn't had the foresight or the presence of mind to ask John and Bill was, you know, how if your brother talked about his work or talked about what it meant to him or his thinking about it or anything like that. I realized that I hadn't asked them that question.

Ritchie: Yeah.

Brock: And that's something maybe we could get to today.

Ritchie: Yeah.

Brock: But I would love to, you know, I would love to hear-- Well, I don't really have a set agenda of exactly what to do, but I thought it would be interesting to hear your perspective on the kind of territory that I covered with your brothers, you know, your impressions of your family and your household and your experiences growing up with Dennis.

Ritchie: Yeah.

Brock: And your impressions of him as a young man, you know, maybe through his undergraduate years, so.

Ritchie: Yeah. Yeah. No, I mean, all of the impressions or all of the things that came out from the interview with John and Bill, you know, certainly struck home. The fact that, I mean, we were a very close family but not-- but emotions weren't-- unless they were good, positive emotions. Like, if you can't say something nice, don't say anything at all.

Brock: Yes.

Ritchie: So that we weren't every really, well, trained to express emotions. And I think that went for everybody. And it wasn't like, I mean, now it feels sort of suppressed but it didn't then, to be honest. But, we certainly didn't-- But, no, I think all of their observations really completely struck home. And the fact that our parents, there was this kind of set of expectations that were almost unspoken that we would, you

know, follow along certain paths. And I think both Dennis and I did it, me more possibly conventionally than Dennis. Dennis, you know, was always super bright and, you know, that was always clear, but he, I mean, he didn't brag about it or anything like that. He just was.

Brock: Yeah.

Ritchie: And, you know, we were, he and I were growing up, of course, in the fifties, which was a very different time than the sixties or the seventies. But-- sorry, I've got a bit of a cough-- So, I mean, I have very good and warm memories of growing up with Dennis. We both lived in Mount Vernon up until 1949 when I was about six. That's right, because when we moved, John had just been born. I went to first grade in the new place in Summit.

Brock: Right.

Ritchie: And we came sort of after the school year had started. So that-- And I have searing memories of those days in-- You know, which ended up being fine, but being stared at. And Dennis would have been in third grade by then. And although I've got definite memories, but they might be the kind of memories that are certainly helped by looking at photographs or old home movies of the years in Mount Vernon. I mean, we were, because we were only two years apart, we did do a lot of playing together. And he was I guess it was starting later than that when we got into maybe junior high or high school, but that he was a real pal. And there was one of my closest friends still, who is from Summit who now lives in Washington, but we often talk about how that we would bug Dennis when he was driving and we were like 16 or whatever, to take us out. Every Sunday we would, he'd take us out to a parking lot and we'd-- And, you know, he was really sweet about it and did it, but it did take us nagging him.

Brock:

Ritchie: So there was that kind of thing. Let me think.

Brock: What was he-- What was your impression of how your brother fit into the middle school and the high school and how did that compare to-- was that similar to the way that you were fitting in both academically and socially and in terms of extracurriculars?

Ritchie: I mean, I think I always-- He was always very bright. I mean, I can remember the stage when we were still in just elementary school, you know, with arithmetic and he would be doing things and I would think, there's no way I could ever do this, whether it was multiplication or, you know, whatever. And then that wonderful feeling when you can do it.

Brock: Yes.

Ritchie: But so that, I mean, but funnily enough, actually, I don't know whether it came, whether it was in any of the archival stuff, but Dennis's old report cards from grade school, there was--

Brock: Yes, they are in there.

Ritchie: One teacher who said he really should pull himself together and do better in arithmetic.

Ritchie: But he, he was always-- I mean, I can remember, to my shame, really, feeling that I wish Dennis was more like the "All American Boy." I mean, he was never athletic. I think John and Bill both talked about that.

Brock: Yes.

Ritchie: And he was a little bit goofy and nerdy. But, you know, really the sweetest person on Earth. And as I said, I can remember thinking in that period of one's life where you want everything to be whether it's super conventional, "Oh, I wish he were more like the high school quarterback," or something like that. But it never, you know, he just wasn't, and he wasn't ever going to be. But he was-- So I think I followed much more of a conventional path. I was certainly in elementary school, I don't think there was that much difference, but once I got to junior high, I was applying or, you know, running to be class vice president or whatever. Although our extracurricular activities were sort of similar. We both were in, like, Latin Club and although Dennis would have been in a lot of the science clubs. So let me think. I mean, he was always-- He was always somebody who was certainly on many notches ahead of me, even though I was doing very well at school, but, you know, it wasn't really comparable to Dennis. He just was much more imaginative, I think, and yeah.

Brock: Do you think, did he have a circle of friends?

Ritchie: Yeah, he did. There were a couple of friends in particular who lived nearby and again, I can remember seeing quite a lot of them. And so he did. He didn't-- I don't-- I guess he didn't hang out with them in the same way that maybe I would have been hanging out with my friends or John or Bill. But he definitely did. I mean, it wasn't like he was a loner by any means.

Brock: Yeah.

Ritchie: And there was a sort of group of them who were all the brainier people in the class who--

Brock: I see.

Ritchie: And I-- another thing, when I was, I guess, in fifth or sixth grade and Dennis had gone to the junior high, that's the way, it was one through six in elementary school and then junior high and then senior high. And for the first, because the elementary school we had all gone to was in a part of town, there were probably eight altogether in Summit, where really it was very, very middle class. And suddenly, he was encountering kids who weren't, you know, were black kids or "the hoods" as we would call them.

Ritchie: And we were just fascinated by his stories of the hoods. And this was in the mid- to late-fifties. And again, the same friend who we'd bug him later to take us driving, we would sort of, you know, just when he'd come home from school, get us to tell us stories about the hoods, you know.

Ritchie: And he, so he had an interest, I mean, he was always really observant. I think that might have come through with-- I think it did come through with the John and Bill. Even though he I think was shy in many ways, and, you know, various people have said did I think he was on the Autistic Spectrum? I really, honestly, don't -- because I think he always was very engaged with people, but whether he actively chose to in the way I or you or--

Brock: Yeah.

Ritchie: But he was very observant and kind of kindly, too. You know, he-- And amazingly well read.

Brock: Really?

Ritchie: He was always-- I think they referred to it.

Brock: Yeah.

Ritchie: A lot of science fiction and-- And in those years, I mean, he was really just good fun. He hadn't withdrawn in the way he sort of did later. And when I say "withdrawn" I mean, and gain, I think that if you wanted to talk to him about something, he was very capable of putting up a complete brick wall. And you always knew it. I mean, there was just no-- you couldn't get through to that if he wasn't in the mood to.

Brock: And was that in his demeanor or in just--

Ritchie: Yeah.

Brock: Okay.

Ritchie: A lot of body language. I mean, a lot of the times you would just know by the body language not to even try.

Brock: Okay.

Ritchie: But then when you would-- But this is sort of getting later, really--

Brock: Yeah.

Ritchie: When he was about-- But I can't remember that ever when we were growing up, that sort of ability to just shut you out, you know, in particular circumstances.

Brock: I was wondering, I had after, you know, it was such an interesting conversation that I had with your brothers and just like reflecting on what I had heard, it almost sounds-- I wondered if there was, if the period of change where he became let's just say more of a private person or an extremely private person.

Ritchie: Yeah.

Brock: Did that happen do you think when he was in-- while he was at Harvard, maybe, in his graduate studies days? Or was that after?

Ritchie: I don't think-- I think it was after.

Brock: Okay.

Ritchie: Yeah. Because again, I mean, again, the talk about girlfriends. And I-- One thing, I might have started Dennis off on this path. He had gone to Harvard and I would have been a junior in high school, so it was our high school prom. And there was a new girl in my class who I'd gotten really friendly with who must have met Dennis already who had a big crush on Dennis. And she, I really liked her. She was very, you know-- So I fixed them up for our junior prom. And of course, being the little sister, I probably overdid it.

Brock:

Ritchie: And they went to the junior prom but then I would follow it up by nagging him about, "Have you been in touch with Kim?"

Ritchie: And I probably ruined any possibility of any relationship, who knows. And certainly, in the summer in the Poconos where we would all spend the summer--

Brock: Right.

Ritchie: He, again, John and Bill did mention this. He was really very, very active and he did have summer jobs there working on the activities.

Brock: Yeah.

Ritchie: And he, every Friday night there was a square dance and there were a number of people who are still around because it's this community where people go back for years and years.

Brock: Right.

Ritchie: And remember going to the square dance with Dennis. And, or, you know, we might have gone as a big group. So he was, I think he was always slightly awkward but--

Brock: It didn't keep him from participating.

Ritchie: Yeah.

Brock: And organizing, yeah.

Ritchie: No. And then when I went to college near Boston, too, and my close friends from the dorm and I would go into to Dennis-- to Lowell House, where Dennis was. I think he was there the whole of the four years. And we would often sort of all get together. I don't know, there were three or four of his roommates. You know, they had a, like, a suite.

Brock: Yeah.

Ritchie: And we would quite regularly go in there. And I know at least one of my friends certainly if Dennis had made a move, she would have too. But it was sort of a group of, I mean, it was really lovely friends and they would cook for us and things. But so it was sort of a group gathering rather--

Brock: Right.

Ritchie: Rather than having dates or anything like that. But I continued-- So, I'm two years younger, so, like, for me, yeah, well, Dennis had gone to-- was in graduate school, that's right, the last two years of my-- So I don't think we saw quite as much of each other as once he got into graduate school because he moved. He was no longer in Lowell House. He had an apartment or something. But we still did, you know, we'd still meet up.

Brock: Did he talk to you about his decision to stay on at Harvard instead? Or did he look at other places, do you know? Did he talk to you at all about that?

Ritchie: No, he certainly didn't talk to me about it. And I don't know whether he looked at any other places.

Brock: Neither do, I couldn't figure that out, but.

Ritchie: Yeah. I kind of think, I think he didn't, but on the other hand, he again had summer jobs and then whether they were in the undergraduate years or post- or, you know, graduate years, I can remember there was one and whether it was at Harvard or MIT, it was all to do with crystallography.

Brock: Huh.

Ritchie: But and I couldn't pinpoint, you know, whether, as I say, it was in-- So I think he often would stay on in Cambridge and work. I mean, John or Bill or both of them referred to his saying that he-- Of course there was no such thing or there wasn't, it wasn't offered at Harvard, computer science. Whether it anywhere at that stage, I don't know. But that he, I think, felt that he-- not computer science, but maybe was it physics or whatever, he couldn't have, he wasn't good enough for that, but.

Brock: Right. I think they were talking about how maybe he had intended and started off in physics maybe as a--

Ritchie: That's possible.

Brock: At some point as an undergraduate and then found applied mathematics which, you know, involved computing and found himself, you know, found a good fit for himself there, certainly. And so, well, let me see. So, was reading something that you and he shared in common, you know, through these young years?

Ritchie: Not, I mean, certainly not science fiction.

Brock: Yeah.

Ritchie: I don't think I've ever read a science fiction.

Brock: Okay. And that was really the genre he was--

Ritchie: Yeah. He loved that. Although he was so widely read. I mean, and he certainly continued to be. There was a lot of reading at home. I mean, books were a big thing. And our, both of our parents when we were younger, and, you know, as long as they could keep it up would read to us at bedtime. I mean, you know, it would have probably not gone on beyond the age of five or six or something like that, but so that reading was something that was just treasured and-- But no, we didn't really talk about what we were reading in that sense.

Brock: Right. And then was it, well, maybe this would be a time, I mean, could you tell me the story about what you uncovered about your brother Dennis's graduate work and the story with his Ph.D. thesis.

Ritchie: I mean, we knew that he had gone through years of getting a Ph.D.

Brock: Right.

Ritchie: And then, I mean, it wasn't even that there was a mystery. You know, we knew that he had completed those years and then got a job immediately at Bell Labs. And quite many years later, I think he said, "Well, you know, I never actually got the piece of paper." And we, I mean, it wasn't an amazing surprise, but. And he began to talk about it a little bit. And this would really, literally, only have been a few years before he died, I think.

Brock: Oh.

Ritchie: And it was no big deal. I mean, you know, he by then was-- He never, for instance, would claim to be Dr. Ritchie. I mean, there were quite a few, like the Japanese always wanted to call him Dr. Ritchie.

Brock: Yes.

Ritchie: But it wasn't like he was faking it or anything, I mean.

Brock: Right. Sure.

Ritchie: But and I think he made some reference to, "Oh, it was just, you know, there was a lot of hassle involved, a lot of red tape." So I guess it was after he died when the Labs [Bell Labs] was arranging this day in his honor about a year after he had died. And by then, I was kind of intrigued. And I can't remember what started me off, but we somehow came-- Oh, probably in Dennis's stuff, in fact. It might have been that really terrible-- That reminds me, I will send you an electronic copy of it.

Brock: Oh, thanks.

Ritchie: I think there was something where there were names of his supervisors on the front of it in either his writing. I think Patrick Fisher was one. There were several of them.

Brock: Okay.

Ritchie: And so, I mean, the amazing thing about the story to me still is that I kind of, I came across or I was looking at this on a Sunday night, say, here in England. I had looked up I think it was Patrick Fisher first of all, I can't remember the names of the other ones, and discovered, I think he had died but that there was a link to his wife, who is still alive. And I got the email address for her and blah, blah, blah and sent off and with the-- Because we had the completed Ph.D., that was it.

Brock: Is that the-- is that the thesis that's in that binder with "thesis" written on the--?

Ritchie: So, I think so, yeah.

Brock: Okay. Okay.

Ritchie: I mean, it looked like it was completed.

Brock: Sure.

Ritchie: And she, Charlotte Fisher, that's her name, and she replied almost immediately. She lives out on the West Coast, I think maybe even in Canada now. And she, herself, I think might have been a computer scientist. She said, "Oh, of course, I remember Dennis so well." And she wasn't certain

whether or not he had completed it, but she said she did remember-- I might be getting the people who told me the different things wrong, but.

Brock: Sure.

Ritchie: That there was something about how he had already got the job at Bell Labs and he had gone over the three years somehow, the allocated time, by just a few months, I think. And when he came to submit it discovered that he was going to have to pay like an extra year's fees.

Brock: I see.

Ritchie: And he just thought, "That's ridiculous," you know. And then the other part of the story or the other side of the story or the other possible story is that he discovered how much it was going to cost to get it bound.

Ritchie: Because you had to go to a particular printer and--

Brock: Right.

Ritchie: And he thought, you know, "Why should I bother with this? I've got my job. I've done the work." And that, that to me, rings a bell with Dennis. I mean, he, you know, he even though he had put in all that work, you know, he got what he wanted and-- So whichever of those stories or both of them might be true.

Brock: Yeah.

Ritchie: But the lovely thing, and there were various other people that Charlotte put me in touch with and literally in the space of less than a day, less than 24 hours, I'd heard back from a lot of these people and they all remembered Dennis and knew that there was some weird thing. That's right, because I think I'd also approached Harvard--

Brock: Yeah.

Ritchie: To see if they could look into their records. And they said, "No, we have no record of him ever being awarded this." And Harvard hasn't come out of it very well as far as I'm concerned, because they-- We, I think before we knew that whole story, we had wondered whether they would be willing to grant him a Ph.D. and it wasn't posthumously at that stage it was, you know, given that he had more or less completed it and look what he's accomplished and this sort--

Brock: Yeah.

Ritchie: Surely, Harvard. "No, no, no, no, no. That's not our policy. We would never do that," and-- And they were always quite standoffish and--

Brock: Huh.

Ritchie: But actually, I don't know that it would be interesting to you if I, I'm sure I can dredge up the email trail for this particular time.

Brock: It would be interesting to me.

Ritchie: Yeah. Because the stories are-- And so, and Charlotte, I think, or was it somebody else? It was a woman had scanned and emailed the whole of the thesis so it's in, you know, a good state. I have a recollection that what's in his archive, you know, it's all paper that's kind of beginning to--

Brock: Yeah. There's some staining on one of-- on the two.

Ritchie: Yeah.

Brock: Two first pages. Now so had she-- Did your correspondent, had she made a scan of another copy?

Ritchie: I think she must have. She had one of the-- That's right. She, when she got my email, she went to her husband's or widowed--

Brock: Oh.

Ritchie: Study and pulled it off the shelf.

Brock: Oh, my God.

Ritchie: And it was there. And plus, she really remembered not only Dennis but she remembered that there was some strange circumstance and--

Brock: Well, it's one of the effects of it, I don't-- I have-- I actually, I should have done this already, but I haven't. I didn't see, he may have published as articles somewhere, you know, bits of it, but I did a pretty thorough look to see if that thesis itself had-- was anywhere and I couldn't find it in any library and certainly not in the Harvard Libraries. I couldn't find it in these kind of, like, databases of dissertations, so.

Ritchie: Yeah.

Brock: I think the effect of that is that it's unpublished.

Ritchie: Yeah.

Brock: So I think a lot of people will be interested to look at it.

Ritchie: I think you're right. Yeah. Yeah. That's right, because Harvard had looked in all those places and said, "No, that's not here."

Brock: Yeah.

Ritchie: "So he couldn't have completed it," or-- Yeah. And it would be, it's I can't remember the title. Something about recurrent something or others.

Brock: Yeah, well, it was, I mean, I while I was working with your brother Dennis's materials, you know, I did take some time just to quickly glance at the first few pages of his thesis. And, you know, it's very interesting, you know, right off the bat, because he's using this concept of Turing machines, which is kind of like the seminal, well, a seminal germ of computer science, to kind of make proofs and make findings about certain types of mathematical objects. So he's really, it's interesting, because that's, you know, kind of how Turing came up with Turing machines was to make kind of proofs and arguments about the foundations of mathematics. So it's, you know, to see Turing machines on the first page of it is just kind of like, oh, well, you know, it was neat, you know.

Ritchie: But I think-- the thing-- But he didn't talk about it.

Brock: Yeah.

Ritchie: Which when you think-- And probably because he realized that there none of us would have a clue what he was talking about. Even my father, I mean, my father, I don't know whether he and Dennis ever really spoke much about Dennis's work because even though Dad was, you know, an electronic engineer and he'd been with Bell Labs, his interests seemed to be quite diverse. Yeah. I mean, but I think he did have the spirit of curiosity all the time. I mean, that's one of the things, Dennis just always retained that, you know, throughout. Even in his last number of years when he was pretty frail, but his mind was sharp as a tack and he would often refer-- You know, he would not just read books of all sorts but scour the online newspapers and everything. And you know, there were a number of times he would talk about pieces that he had written or read, rather, about what was going on over here and remember them in incredible detail. He did have, whether it was just this-- whether the whole everything goes together, the ability to focus so well, and whether the fact that he wasn't encumbered with emotional ties or whatever, whether that helps, I don't know.

Brock: Yeah. Or a byproduct or who knows.

Ritchie: Thinking about, you know, dusting the furniture or all the sort of everyday stuff that so many of us can get bypassed and, you know, who knows about that. But he did. He retained that wonderful open mind and sense of curiosity right throughout. One story about talking to him about what he was doing, in 1980, I'd just met my husband Chris. It was the first time we went over, that Chris had come over to the States to meet the family. I think he had-- Anyway, he had met John previously over here, so he was

talking to Dennis about Dennis's work. And Dennis was also, he loved taking anybody who was willing into their lab at Bell Labs and sort of showing all these machines and, you know, still he was kind of preaching to the dumb, because--

Ritchie: But you could tell just this, he was enthusiastic ,and it didn't really matter if you didn't really understand what-- But, so Chris was saying, "So Dennis, what are you working on now?" And Dennis said, "Oh, mail." And Chris thought, "Yeah? Mail? So?" And of course, and I don't know, it would be interesting to know exactly what he was working on. I'm presuming it was something to do with Unix and C, but it was, I mean, he, well, I'm not saying that he invented email, but, you know, it was that concept which was only it hadn't really, certainly, it was not widespread at all, well, in any way.

Brock: Yeah, yeah. Yeah, that could have been any number of directions on working on mail. Yeah.

Ritchie: And we would-- We would try to ask him what he was, you know, what he was doing. And he would either tell us and we would just not have a clue what he was talking about or decide he'd put up the wall and go to the cellar or something like that.

Brock: But he didn't really have-- He didn't have a way to kind of explain it in more general terms or put it into context or?

Ritchie: He didn't, but--

Brock: Yeah.

Ritchie: He might well have if we had somehow responded in a different way, I don't know.

Brock: Yeah. That's true.

Ritchie: It wasn't that we weren't interested. I mean, but it took us a long time to realize that he, you know, had accomplished something amazing. Because he didn't talk about it. I guess gradually we knew that, you know, he was winning prizes and I think we had all experienced the thing of-- We were all together up in Boston one Christmas and gone in on New Year's Eve. What do they call it? There's a big event where they shut Boston off and it's all pedestrianized and there are various events. And Dennis and John and I can't remember if Bill was there and families, we were all there and we were in on the T, at a T station just waiting for a train to go back. And this young man came up to Dennis, sort of almost--

Ritchie: Like this. "Dennis. You know, I know you from a-- I met you at a Unix conference," or something. And Dennis was so sweet and would really always respond to anything like that. But that was the first time I think I certainly, probably John and I-- Bill might have had a better idea-- understood that, you know, Dennis was like royalty to some people.

Brock: Oh, yeah. I guess if you're not-- if you're not--

Ritchie: Not in a--

Brock: If your connection to the computing community is through your brother, how would you ever see that?

Ritchie: Yeah.

Brock: You know. Hmm.

Ritchie: In fact, years later, I didn't get a job, I did this one-year course here in Newcastle. And Dennis had actually had a lot of connection with a computing department in Newcastle over the years. I think they were early ones who had Unix. So he would come and visit us, which was great. Anyway, I did this course which was, it was called a conversion course in computer science. It was a master's. And it was geared, supposedly, for people who didn't-- hadn't had any scientific or mathematical background and didn't need to in order to help them get a job sometime. And it was really all the wrong course for me. By then I was in my early forties, I guess. I had done political science as a major and I was always sort of more arts oriented. And it was such a hard course. I mean, it was incredibly hard. They supposedly the first semester, it was just our group and then after the second semester, maybe there were three terms, we were thrown in with the final year single honors computer science students.

Ritchie: And it was all things like logic design. And in fact, and it was really, really hard, I mean. You know, for one thing, sort of studying again after being away from studying for 20--

Brock: Right.

Ritchie: Doing something that I was really only doing because I figured I'd get a job at the end, which I ended up doing. Anyway, it was really quite a struggle. And Dennis was so sweet. He, when he looked at the curriculum and said, you know, "That is really-- That's tough."

Ritchie: But anyway, he came-- As a complete aside, but I noticed this from John and Bill's thing, Bill saying that in our family Martin Gardner had been this big--

Brock: Yeah.

Ritchie: Well, I don't remember that. I think that, I mean, that was after I had left. And he said, for instance, he had never heard of Claude Shannon. Well, I can remember Claude Shannon. I mean, I can remember hearing about him, and we might have even met him. He might have come either to our house or I think he might have been Bill Keister's boss at some stage and we might have met him there.

Brock: That would make sense.

Ritchie: And I definitely remember talk of Claude Shannon. And the reason I'm remembering it now is one of the first classes, one of the first lectures I went to with this master's was in logic design or something and I think Claude Shannon was mentioned, like in the first sentence.

Brock: Yeah, he-- Yeah.

Ritchie: But I, as I was struggling mightily through this, I thought, I'm not going to let anybody know who I am.

Ritchie: Who my brother is. But Dennis came. This was in 1987, '87, '88, to give a sort of little seminar. He had come over to do other work other places and I went along to it. And it was just lovely, because some of the lectures on my course I, one of the things that was hard for me is they kind of had the attitude that, you know, don't ask any dumb questions. And, you know, they really would put you down. And Dennis was-- Right, and so people had come from all over the country, students mostly, youngish people to hear him. It was very informal setting. And he just, it's only-- I don't know that you've had this experience of seeing people from your family in their work situation. Because normally, you don't.

Brock: Right.

Ritchie: And I could-- I mean, and he was just wonderful, he would have made a really good teacher, dealing with their questions. So if he couldn't answer the question, he wouldn't say, you know, make them feel they were stupid for asking it, which is what my lecturers were doing. He would admit it. He'd say, "I don't know," and you know, sort of work on it that way. But you could tell, I mean, he was really revered.

Brock: Yeah.

Ritchie: And by then, of course, you know, we were much more aware of his situation. But he never would have talked about it. He would sort of joke about it maybe if we-- But he would never blow his own trumpet or so.

Brock: Did he-- did he appear-- Was your sense that he was in those sort of technical settings in the technical meeting with that technical-- Or with the technical community, did he seem-- did he seem at ease, you know, lecturing or, you know, participating in some sort of public thing?

Ritchie: Definitely, yeah. No, I mean, he seemed-- I mean, it was like he was with his own people, his own tribe or something. And he did, he seemed not only very much at ease, but he was lovely the way he dealt with people. Yeah.

Brock: It's just interesting, I think there's such a, well, for me, you know, and maybe this is too much of just a kind of a surface observation, but maybe it isn't, that you have a person, this intensely private person in certain parts of his life, but in his-- but his technical work and even UNIX itself is very social and very much-- you know, UNIX is really kind of a like community technology in a way. So it's an interesting--

you can maybe say well, maybe he wasn't so solitary just in one dimension. But if you look at what he was doing with his technology and with all of these people that...

Ritchie: I think you're right. Yeah. That was kind of his world even though I think he valued the family. But they were the people maybe that he felt most comfortable with. That was the other thing that struck me about the time when I was pursuing the PhD story how wonderfully collegiate and willing people were to share. And I don't know whether it's still like that. You'll be in a better position to say that whether people are more guarded nowadays. I guess it depends what they're working on.

Brock: I think that's it. I think it depends on the area. And it depends on the kind of community. Some are very...

Ritchie: That they were never ever sort of commercially driven, which is amazing when you think about it. I mean he used to joke about he and Ken Thompson that they had lost AT&T more money because they were giving all of this stuff away for free. They want. But, you know, if it had been a really commercially driven operation it might not have been like that at all. But I can't imagine him in that world.

Brock: Yeah. And then it's not clear that UNIX would have become what it has become had it been more proprietary from the outset. Yeah. And it is-- please.

Ritchie: I was just going to say I think Bell Labs, the spirit of that era of Bell Labs, must have helped. I think the fact that they were given free reign basically. And, again, I suspect that just probably can't be the case anymore. I don't know. He was there in the heyday.

Brock: Absolutely. Yeah. Or one of the heydays, I guess. It had a long heyday.

Ritchie: Yeah.

Brock: Did your brother, did he travel a lot for this technical work?

Ritchie: I think he did do quite a lot. He would go to a lot of conferences, not only in the US but he would travel to China and Brazil. He'd go all over the place and I think quite enjoyed that. South America. I think he did more of that international traveling later. When I think about it in the late eighties he was certainly traveling to China and I don't know where these USENIX conferences were. I presume they were every--annually probably just in the U.S. I don't know. But he would come to some similar things in the U.K., the equivalent. And, yeah, and whether he was giving papers or just attending them, I'm not sure. Yeah, so he did do a lot of traveling. I think he enjoyed it.

Brock: One thing kind of harkening back to that discussion of "Dennis, what are you working on?" "I'm working on mail," I thought it would be nice to record-- get on this recording something that you told me at an earlier time which was about once email became more widely adopted and you got on email, this kind of blossoming kind of correspondence with your brother, Dennis, if you could talk about that.

Ritchie: Well, in fact, that happened that year that I was doing the course, the M.Sc. because that was my first exposure to email. And it was through the university's email system. And it was wonderful. And that was Dennis's medium certainly with the family and his probably maybe of communication. He was a wonderful writer. So that was great. And I think I do have a lot of them still because I would have printed them off which I will happily-- I haven't looked at them yet but I'll come over and we'll try to get them to you because it's sort of another glimpse of Dennis. And it would've been mostly that we were talking about family things rather than anything to do with his work or even my work at that point. But, yeah, no it was great. And not long after that I think Bill, brother Bill, he must've got a server with their company because his company had started up in Washington D.C. sometime in the mid-eighties. And I think Bill got into emailing. They had a server. So all of the family, apart from Dennis who had his own, were using this Binary Arts, it was called, server. So then a lot more of us got involved. But it was still-- do you remember when email really took off? Was it well into the nineties?

Brock: I guess I think it wasn't until the 90s when it became more of a mass phenomena certainly. But, I think, of course, in certain circles, in certain pockets people were using it certainly back to the seventies.

Ritchie: Yeah. But I think as a whole, as a family we did begin really starting from the late eighties start using it first of all me with Dennis on the Newcastle server. But then on Bill's server. I remember my husband, Chris, maybe he got onto Bill's server, too. But he was working in television. I think he got access somehow. So we all could see the joy of it. And it was sad because our mother had died in 1988. She would have just loved it. She would have blossomed because she was a great writer. And she always was bemoaning the fact that I never wrote her.

Ritchie: It would've been perfect. And my father never really got into it which, again, was curious when I think about it. But, yeah, that was a real-- and Dennis would often come and stay with us when he was coming certainly to England. He would always stay with us. And then I'm sort of going off on another tangent.

Brock: No, no, please.

Ritchie: I didn't used to come back for Christmas much just because of one thing and another. But started coming back more in the eighties. And both of my daughters by then, by the late eighties, had actually moved to the States. They had finished school over here so that was a good reason to come over. And my father was, by then, on his own. And we typically would go to John's house in Boston. And Dennis would always come. And Dennis would often be the chef. He would be cooking a particular meal. But then, as the years went on, we would alternate and sometimes he would stay at home and usually when we did Dennis would actually come over to us for Christmas. And it was just-- my husband Chris has a sister and a nephew. So it would just be the five of us, a little group, which was always lovely. But, actually, it was Dennis who said, "We do miss the children," because that's right the other top place we would go would be my daughter Jill who lived down in Virginia who, by then, had little children. And we would sometimes go with Dennis. So he would often come over here whether every other year or every year for Christmas, often arriving Christmas Eve and not staying all that long. But it was lovely. So I think

the family connections really did mean a lot to him whether or not he was into articulating that. But his actions certainly spoke louder than words.

Brock: Right.

Ritchie: And I know that they talked about this how he would really be interested in taking everybody's story and what was going on in everybody's life from the littlest kids.

Brock: Yeah. And it certainly seemed like he-- my impression from listening was absorbing everything, not missing a beat about what was happening for everybody. Yeah. I was wondering, was he-- you know, in this area of his work life he was doing so much to kind of develop software and computing technologies. Was he avid about technology in other areas of his life? Or did he have gadgets? It didn't sound like it?

Ritchie: No, not at all. It was hilarious. I mean we knew about it even before he died. But after he died and we all went to help clear the house and everything and his nieces and nephews, or nephews more, had always the latest iPhone or this or that or whatever. And Dennis had reluctantly sort of been taking on the cellphone which was-- at home-- But it was a really crusty old thing. No. He didn't seem to be interested in the latest technology. And I can remember once, actually, talking to him in the last five or ten years of his life about what was going on at the Labs then because it always seemed to me rather sad. He was there in its heyday. And then I can't remember at what point-- and he was head of the lab of his section which I think initially he really enjoyed and was probably very good at and it wouldn't have been like a normal manager. I think he was given a lot of leeway. But then, gradually, as times got harder and he was having to spend more and more time letting people go, which he hated. And I think it was just burdensome. And then they began-- I guess Alcatel/Lucent hadn't taken over yet but I don't know. Things were clearly getting harder and harder whether it was AT&T or whatever. And they were offering people packages, very generous packages to go. And many of his sort of generation of colleagues did go. Ken [Thompson] went off to the West Coast. Ken, always seemed, again, I think John and Bill talk about it, very much more adventurous than Dennis in his willing to take chances. I suspect Dennis was taking his own chances in his own way. But Ken was much more doing things like flying jets. So really most of Dennis's generation of colleagues left either to go to other companies or into academia. And we know that he had all of these same opportunities if he had wanted to. But he didn't, evidently. I mean we did talk a little bit about that. He just wasn't interested. And I personally think he might have begun at that point to really become quite depressed because it seemed like that was sort of the turning point of shutting himself off a bit more because when he was head of his lab he would do a lot of entertaining in his home. And that all seemed to kind of dwindle away.

Brock: Would that have been after 2000 or something like that?

Ritchie: Probably it would've been. I could figure it out if I look back. Let me think. Probably. But, I think, more and more people leaving and then talking to him about what was going on, what were the latest things. And he said, "You know, I actually-- some of me doesn't know but I'm not even that interested." And so I have no idea what the things were. But he admitted that, which I think, was a sort of-- and he

wasn't saying, "Oh, I'm not bothered about that." But whether they were things that were more to do with like social networking I have no idea. But they didn't ring any bells with him. And then when he did finally retire-- and, of course, they let him stay on. He had an office. And he lived only a five-minute drive from the place. So he would go, I think, very regularly into the office not necessarily for the whole day and, I think, really did enjoy it. And, in fact, the sad story is that after he had had these various illnesses and he really wasn't in good shape for the last four or five years of his life had been getting better because the rehab or exercise that he probably never had in his life. After he had broken his leg and they put him through the paces. And he was in very good shape when he came out of that looking well. But, of course, he didn't want to continue it. We would all say, oh, Dennis you should keep on doing it. Maybe we'll get you a dog. He'd roll his eyes. Here's a story. During that time, I came over quite a lot. I guess I had retired by then. And it was easier for me. And I loved being able to do that because both John and Bill were still working. I mean they came down a lot, too, but he had beautiful fingers. And he used to play the piano as a kid. I don't think he really ever followed it up. And I was staying with somebody during this time who knew a piano teacher for adults. And when Dennis was in this place I said oh, Dennis, what about maybe taking a piano? And he might've said, "I don't know. I'll think about it." But after he had got out and he was back at home there's an email that I sent to him saying Dennis have you considered, again, the possibility of taking piano? I think it would be a nice hobby. He said, "No. What I've considered is getting my life back and not having other people organize me." It was said in a very definite-- I didn't feel hurt or anything. Yeah, okay. We had got him sort of trapped what he couldn't do a lot of things. But now finally he was free. But then that's right it was his 70th birthday in September 2011 which we had all gone over for and had a really lovely time. And there were various things that we were all trying to-- we were always trying to keep in touch with him anyway. And sometime in that following month I was emailing him about something in particular that I wanted an answer to and not hearing back from him. And in some ways that was not unusual. But then Anita, whose last name I forget, but the secretary in the department wrote an email to me saying, "Is Dennis all right?" Because she had been trying to get in touch with him about coming in for some event at the Labs. And she said, "Normally, Dennis replies really immediately." Unlike to me or the rest of his family. And that really worried me. And so we all hustled and I was over here. But both Bill and John were making phone calls to people. And, in fact, he had died probably a day before or something like that. And must've been feeling just gradually-- we believe it was a heart attack. That's what is on the death certificate. And it seemed very peaceful. But if it hadn't been for Anita kind of alerting us I don't know how long it would've taken as to-- you know, probably not more than another few days to think "Why isn't he responding at all?"

Brock: Well, thank goodness, it happened the way that it did.

Ritchie: Yeah, I know. And I can remember when we went to the Labs and we all came over and went over there, there were little shrines to Dennis. By now, so many of the people working there were from the Indian subcontinent. And these people they would come up to us and say, "We were part of Dennis." It was very touching. And he clearly was really revered and loved. And not just for what his accomplishments had been but what he was like as a person. You know, I think he was a really thoughtful both boss and work colleague.

Brock: That's what your-- I had heard also from talking with your brothers their impression was everyone was saying that he was a wonderful colleague and a great person to work with. But that they didn't really know very much about him beyond that.

Ritchie: Exactly.

Brock: That they knew him, his work persona. I wondered-- I don't think I've talked with any of you about before I wonder were there social causes or were social causes or politics at all a part of Dennis's life?

Ritchie: I wouldn't have said that he got involved with anything. And I'm just trying to think back whether we would have discussed stuff. He definitely was on the same track that we all were. But I kind of actually, when I think about it, recall having any discussions about politics. Well, again, this isn't Dennis, in particular, but there was something in the conversation with John and Bill about politics. And one of the things that I remember from it would've been the fifties was my mother, in particular, but I think both parents they would listen-- in the Poconos where definitely there were no televisions. It was a radio but the McCarthy hearings. They were just tuned into that and horrified by what was going on. And, I think, Dennis didn't really-- that's interesting. I mean, for instance, in the mid-sixties when everything was-- as far as I know he didn't ever participate in any of the big marches or anything like that. I'm pretty sure he didn't. But it wasn't that-- I don't know. That's interesting. I never really even thought about it.

Brock: I just wondered. Yeah. Let's see here. I'm just looking at my notes. And what about when did his-- my impression from speaking with your brothers was that his habit of kind of being a nocturnal started fairly early on and then was fairly consistent. Was that your impression?

Ritchie: Yeah. I don't know about the college years, but I suspect it started pretty rapidly once he had moved back to Summit and had this living situation with having his bedroom up in the top of the house and the workplace down in the basement. And, also, so he definitely very early on had this nocturnal cycle where he would get up. I wasn't there that much but I can remember when I would be there and you were very aware of waking up at about four or four thirty with the shower going. He'd come up from having worked in the basement, take a long shower, go up to bed. Come down usually around noon and get some breakfast and go off. Probably come back from the Labs at seven thirty or eight, something like that. But I think that started pretty early on when he had moved back to Summit which would have been in the late sixties, I guess.

Brock: And that seemed pretty consistent for him afterward?

Ritchie: Yeah. And I think even the years when he was the boss of the place, I think it was just acknowledged that a lot of the people in that department probably were similar. It wasn't the kind of place where you had to sign in at 8:00 A.M. And, yeah, I think he continued that probably until the day he died. He was always a night owl. And you didn't really want to ruffle his feather's when he first got up.

Brock: Like many of us, I think, yeah. And what do you make of his-- his long-term colleagues kind of finding him to be a personal enigma, in a way? I mean is that-- Is it easy to make too much of that? Was that his characteristic that he was a an extremely private person? I don't know. I guess I'm wondering what kind of sense or meaning you give to how private he was?

Ritchie: Yeah. I don't know. I think he just was a very unique person. The instinct maybe is to want to slot people into some hole that says they're introvert or extrovert or this or that. And I think-- but what led to him being like that because really of the rest of us-- maybe the reason the rest of us haven't done what he's done is because we're not like that. I mean part of it does feel that-- but it's the chicken and egg thing. Who knows? And it certainly is the case that we weren't brought up to express real deep emotions or difficult emotions or even recognize them. And, again, I think the rest of us have kind of coped with that in our own way. And realized probably to get on with our nearest and dearest you do need to face up to a lot of these things. And whether the fact that Dennis didn't have a life partner meant that he didn't need to do. I don't know. It's interesting. I feel quite defensive about Dennis. I think he was a very unique human being with really wonderful human characteristics and whether you can call it shyness. I don't think it was really was-- it's not shy. Just privacy. Yeah.

Brock: It's made me wonder about, thinking about just privacy as the thing in itself. Maybe it's not some-- maybe it could be a characteristic and of itself, not a byproduct of something or a defense for something else. But it's just a certain form of character. I don't know.

Ritchie: I mean he was never interested in just doing things for show or to fit in with conventional things from being a little kid. So he always was sort of on his own path. But willing to-- not imposing that on anybody else or, I think understanding other people who weren't doing it that way he was. But I don't know.

Brock: And what experience did you have, or did you have any kind of social connections with his long-term colleagues, his Bell Labs compatriots?

Ritchie: Well, Ken and Bonnie because we had all gone together to one of the big presentations, the National Medal of Technology event that was, I think, in the year 2000, I guess, in Washington. And Bonnie, Ken's wife, I'm still in touch with her via Facebook. We don't really know each other. But she is very open. And this guy Jon Bentley who showed up I don't know if John and Bill mentioned him when Dennis was stuck in this rehab place Jon Bentley who had been-- none of us had ever known him before. I think he was a sort of next generation down colleague but had been in the lab and had been there when Dennis was head of the lab and just really admired Dennis. And he was wonderful. He came and visited him every day whether Dennis wanted it or not.

Ritchie: And what was I going to say about him? And we've kept in touch with him. He's actually come up to the Poconos because he lives fairly near in New Jersey, about 30 minutes away or something. And over people like Brian Kernighan and, God, my mind has gone blank. A man who I can't-- I just can't remember his name. They were all-- they've been very friendly and open with us about not only when

Dennis died but, I think, that's right just before that when it was his birthday doing things. I wouldn't say we're really in close touch.

Brock: But it seems like to a person the very-- that your brother Dennis was a very fond and cherished colleague.

Ritchie: Yeah, that's certainly the impression that you get. Yeah.

Brock: And I was just wondering about your father's work and spending his career, essentially, with the Bell Labs organization and switching theory and switching circuitry. And I have a twofold question about that was there a representation of, as youths, was his work manifest in the household? Or were you going to see Bell Labs facilities? And did he have a lot of stuff at home? Or what was that like?

Ritchie: It certainly was talked about more and more than Dennis's work, I would say. Things like there was an oscilloscope that he had down in his basement. And I can remember him taking us by then I think he was working in Holmdel. One thing to clarify, it probably doesn't really matter, but when we moved to Summit I think he definitely was hoping to move to Murry Hill but he never did. He continued to commute into New York to West Street until West Street finally, I guess, shut down. I don't know. Or else Holmdel was open which was a number of years after we had moved there in 1949. And he'd go down-- there was a boss from Summit, a Bell Labs bus, I think. He'd often use that. And I think my parents were thinking of moving down there but never did at that stage. But, yeah, that's right, what I was going to say is taking us to one facility or another whether it was Holmdel or the lab at Murry Hill which I think he had access to. I think I might have once gone into West Street but that's maybe not. To see a room with the kind of circuits, when you were talking about switching circuits which was like, a room as big as our house. Or maybe it was in the context of then here's a circuit board that does exactly the same thing. So, yeah, you were kind of more conscious of his work. I think Dennis was quite interested. Daddy would make him Christmas presents of circuit boards or electronic things which Dennis would-- and I think at that point when Dennis was pretty young Dennis was really much more attuned to whatever it was that my father was doing.

Brock: Well, I did see in your brother Dennis's papers there was a write up that he had done from work I think that he did in 1963 working at like a summer position at Bell Labs. And he was-- it's an interesting bridge because he was using a computer to kind of automate the design of the switching circuits. It was an alternate to kind of the maybe more hands-on method that the engineers had used to design these different switching circuit devices or whatever they were. Your brother Dennis was designing a computer program to do it. So it's an interesting bridge. Let's see. And do you think there was a difference between at that time and in your family in the expectations for whether or not you would become interested in the technical sorts of things going on and the engineering sorts of things? Or did you feel just as encouraged as your brother?

Ritchie: Yes. Definitely. And, no, I was never interested. It wasn't that I was uninterested. I was uninterested to the degree of-- no, I felt encouraged and expected. We've talked about this before. Yeah. And there was always a premium on kind of good wordplay because Dennis was also, I think it went

along with his reading, very witty. And that was kind of a-- you almost couldn't escape it in the household with my mother more than my father. It's interesting because doing this talk my father was probably basically more like Dennis and whether it was because they were scientists I wouldn't say that. But if he hadn't married and had a family he might well have been a sort of private and he was certainly given to-- whereas my mother was very much more outgoing. Yeah.

Brock: The only other question I really had at this point was about-- I've just been curious about for you and your brothers with the premium on reading in the family was it like the public library in Summit was that where you were getting your books? Or did your parents have a big collection of books that you were just diving into? How did that work?

Ritchie: Sort of both. I definitely remember the wonderful years of going to the library where they would have reading clubs and things like that and getting books out the library. But on the other hand, we did have a lot of books in the house. My father his reading at night choices were things like *Treasure Island* or *Lorna Doone*". I guess we might have been older than five but maybe not. But he loved reading these old classics. But we did have a number of kids' books, *Mrs. Piggle-Wiggle*. But definitely going to the library, yeah. That was a real treat. I don't know that that sort of exists anymore for kids. I know here libraries are getting cut mercilessly.

Brock: Yeah, here, too. Well, maybe we could just think about are there any stories that really, for you, seem very telling or funny or important about your time with your brother, Dennis. It's kind of an impossible question, right, to immediately think on the spot of some great story.

Ritchie: I think it says a lot about Dennis and I think John and Bill also mentioned it his incredible generosity. He took my sister-in-law and me to Japan in 1989, I think it was. He would've taken the whole family but we were the only ones who said "Yeah, I'll come" and could figure it out for one big prize. Japan-- no, that wasn't the Japan prize. And then he took us all to Washington when they were getting the national medal. And it just sort of came naturally to him and we would've, as I said, gone to Japan again except for the tsunami. The whole extended family would all at Dennis's-- so that kind of generosity it was kind of we were definitely so pleased for him. But, let me think, about-- I can't think of anything that I haven't already spoken about, but I could rack my brains and think. Yeah, right at the moment I can't think of anything else.

Brock: Great. Well, those are the sorts of things that I was really interested to talk to you about. So thank you very much.

Ritchie: Have you ever considered becoming a psychoanalyst?

Brock: Well, I definitely am more comfortable asking questions than answering them. So maybe that would be a good step for me. Although, talking about the history of technology is probably a little more comfortable for me than some of what goes on on the analyst's couch. Well, this has been great. Thank you very much. Let me just switch off this recorder but not hang up so we can just talk more informally.

END OF THE INTERVIEW