

Computing Educators Oral History Project

An Interview with *Joyce Currie Little*

Conducted Wednesday, October 4, 2006

In San Diego, California, USA

Interview conducted by Barbara Boucher Owens

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[Context of the interview: To be filled in]

- 1 [0:00]
2 **Barbara Owens:** This is an interview with Joyce Currie Little from Towson State...
3
4 Joyce Currie Little: Towson University.
5
6 **B:** Towson University —let’s get that correct — conducted by Barbara Boucher Owens.
7 The interview is being recorded on the 4th of October [2006] in San Diego, California,
8 in the United States. It is part of the Computing Educators Oral History Series.
9
10 **Did we pronounce everything right once we got Towson correct?**
11
12 J: Yes, yes.
13
14 **B:** OK! I usually start, as I noticed Alison does as well, going way back when. So let’s go
15 back to your childhood. Did your parents have college degrees?
16

17 J: No.

18

19 **B: Tell me more.**

20

21 J: My father went to Louisiana Tech for one whole week.

22

23 **B: Oh!!**

24

25 J: And came home and said, “Well, that’s enough of that. I don’t need any more of that.” And I
26 think he was the only one in his family that went to college out of the four boys — there were
27 four boys in his family. And my mother graduated from high school and was an honor
28 student, but never had an opportunity to go to college. So neither of them did. But they really
29 emphasized study and learning and felt that education was really important and sort of
30 instilled in both me and my sister that we should plan to go to college.

31

32 **B: Were they interested in mathematics or engineering or related ... ?**

33

34 J: My father was a do-it-all sort of guy, almost, kind of guy ... almost like an engineer-type of
35 guy, who worked on cars, automobiles. He ran the farm and could do almost anything. My
36 mother was not. She was more a literature person, more of a social science type; interested in
37 books and reading and radio, which was, at the time I was growing up, was a big deal. And
38 so my ... one of my uncles was very good, one of my father’s brothers, was very good in
39 mathematics. And so my dad had been told he was very good mathematically, but he really
40 never had a chance to study it. So he was very interested in the two of us girls, how we
41 reacted to mathematics. And so he kind of had a love for that.

42

43 **B: So tell me more about your sister and your love for math. Were you ... did that start
44 when you were in elementary school? Or were there ... ?**

45

46 J: No, actually we were both rather fortunate in this little country town, Pioneer school had all
47 twelve grades and ...

48

49 **B: This is in Louisiana?**

50

51 J: In Louisiana. Pioneer, Louisiana, in West Carroll Parish. West Carroll Parish and East
52 Carroll Parish are close to the Mississippi River, just across from Vicksburg, Mississippi, and
53 very heavy cotton country. And both of us were fortunate in that the school had such really,
54 really good teachers and they encouraged students, even in the third, fourth and fifth grades,
55 to excel. And they almost always had opportunities for you to rise to the top of your class and
56 do special projects and special activities. And especially my fifth grade was really a
57 highlight, in that we began to — one of our teachers began to have us competing with each
58 other. And I wound up competing with three or four young boys, who I competed with all the
59 way through twelfth grade. And several of us wound up going on to majoring in
60 mathematics.

61

62 But the real motivator was one of our high school teachers, who was an engineer type, who

63 had not practiced engineering because he had poor eyesight. He came to teach in high school
64 instead. He was constantly pushing us and pushing us and struggling to have us appreciate
65 the value of mathematics and especially what you could do with it. But of course, I didn't
66 major in mathematics in college at first. I was going to be a basketball coach.

67

68 **B: Oh!**

69

70 J: I was going to be a phys ed [physical education] major. My sister and I also learned
71 basketball through our father. He played baseball and also basketball and his friends and
72 colleagues in his era were also athletic. He even wound up building a basketball court in a
73 pasture on our farm. And so all of his basketball buddies came to play at our house. And the
74 two of us little girls wound up playing with the men. And he taught me how to make a left-
75 handed hook shot that I could make even with a man, grown man, guarding me. And so it
76 turns out that both me and my sister wound up being extremely good and on our local high
77 school basketball team. And so we were offered scholarships at places to play basketball.
78 And so, kind of as a result, I majored in physical education when I went to college and I
79 minored in math.

80 [5:00]

81 And so ... unfortunately, I got an illness in between my sophomore and junior year. And this
82 illness was such that I had to cut back all physical activity. It was a little bit of a shock to
83 everyone on my college campus, because health and physical education teaches health also,
84 and then to discover that one of your basketball people is ... has got tuberculosis, was kind of
85 a shock to everyone on campus. It was discovered on one of those mobile buses that comes
86 around to campus. And so I switched. I went into a sanatorium, actually, for 17 months. And
87 when I came back to college after that, I was told I couldn't play piano anymore, I couldn't
88 raise windows anymore, I had to be careful with all the motion, so I was not to play tennis
89 anymore — because I had been on the tennis team as well — and not to play basketball
90 anymore. So I majored in mathematics, then, my last two years.

91

92 And then I was hired on campus, actually. I was interviewed by a company that came there to
93 interview one of our physics teachers. And he asked this physics professor if he would
94 indicate if there were any women math majors that were recommended, because they were
95 looking, he said, for women math majors. And my physics teacher recommended me to be
96 interviewed. And so I had that interview and I got hired that year, my senior year, to come to
97 San Diego, California, to work in the aerospace industry. And I asked him what I was going
98 to be doing. "Oh, you're going to be one of our computer gurus! You're going to be trained
99 how to use computers to do computation for the low speed wind tunnel." That turns out that
100 was the first job I took.

101

102 **B: It was the physics teacher that recommended you, but the math teacher is the person**
103 **who pushed you through?**

104

105 J: The math teacher in the high school, the 10th grade, and 11th grade, and 12th grade math
106 teacher, was the one who most ...

107

108 **B: But the physics professor at college.**

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J: Was college, yes. The physics professor was the teacher of my physics class in college.

B: Did you do research with him? Was there any opportunity to do research?

J: No. It wasn't really ... I guess doing research as an undergraduate wasn't really promoted in those days. And there were so few women in math in those days — and in physics — that when he was asked if he could recommend someone that they could interview in math he recommended quite a few of our people who were graduating, but I guess ... I think I was the only woman that was interviewed. And it turns out that, I didn't realize why at the time, but later after being at Convair for several years, I found out why.

B: Tell us, tell us.

J: Well, it turns out that in the 1940s when the ENIAC was being built at the University of Pennsylvania, for some reason Mauchly and Eckert got women mathematicians to do the programming. And there is of course a lot of talk about whether or not it was because all the men were gone off to war — that was in World War II — or whether it was some other reason, but they consistently hired women to do the programming.

B: I've heard that.

J: Yeah, so it turns out the people at Convair had actually done research as to who was going to be active in this new field that was arising — because I was hired in 1957 — and so it turns out that they had read research, psychological findings and workplace findings, that women were supposed to be especially good at detail. And so apparently that's one of the reasons he had asked my physics teacher, "Do you know any women math majors?" So I guess I was reverse discrimination placed, you know, I didn't know it at the time.

B: Interesting! What was your sister doing? She was ...

J: My sister was two years ahead of me. And she was also very good in math, but she loved biology better. And so she wound up going off to college at McNeese State in Lake Charles, Louisiana, where my mother's brother lived and his family. And she stayed with them and studied medical technology. So she became a medical technologist. She also had an illness that held her out of school for about a year in the middle of her time. She had been sort of classified as a manic-depressive, bipolar disorder and it became aggravated in some way. And so she had an illness that kept her out a little bit in the middle of her studies as well. So when it came time for me to be graduating, she was already out of school and working. But she said, "I've never been to California and Dad says we can take the car if I go with you because he won't let you drive that far by yourself." [chuckles] So we took the car — my dad had provided an old used car — and we drove to California together. After we got out here and I started my job, she decided she didn't want to go home. So she stayed in San Diego and worked for many, many years as a medical technologist. And she married in San Diego and she still lives out here.

[10:38]

155 **B: So this is homecoming.**
156

157 J: This is homecoming, in a way — for her. She’s ... she lives in La Mesa, not far from here,
158 not far from San Diego, and has had two boys and has been doing very well.
159

160 **B: Good. Let me back up a bit. Because you mentioned that she went to McNeese, but you**
161 **didn’t say where you went or how you chose it. Could you tell us?**
162

163 J: Oh, yeah! Well, my sister had gone to McNeese State in Lake Charles, which is, you know,
164 maybe six or seven hours drive away. And I got basketball scholarship offers, all from
165 Mississippi. And my dad said, “No, no, no. You can’t take those. That’s too far, across the
166 River.” And I said, “Well, how about if I go to McNeese State where my sister is?” “No, no,
167 no, that’s too far. You’ve got to go to the closest place.” And so Northeast Louisiana State in
168 Monroe is the closest place. So that’s where I went. Not because I chose it, but because my
169 dad says, “You can’t go any further!” So he was a very protective father.
170

171 **B: When you went to industry you worked out here in California. When did you decide to**
172 **go back to school and what propelled you in that direction?**
173

174 J: Actually, it was almost right away. In 1957 — that’s the year FORTRAN first came out. And
175 we had, of course, been programming in, first of all, machine language, and then we were
176 programming in assembler. I loved it and I just studied it all the time and would sit at that old
177 IBM 650 looking at the console, reading the manuals while I was waiting for it to run. So I
178 had really studied the architecture and the structure and the programming languages. When
179 FORTRAN came out we had training classes in it, in how to use it. And one of the people at
180 Convair Aircraft Corporation — not in our division, not at the wind tunnel, but over in the
181 main ... what they now call the information technology division — had done a lot of work in
182 using tools, other kinds of software tools. And he made arrangements with UCLA extension
183 to offer a class. And so I signed up to take his class. And I actually got University of
184 California extension credits. That was the first class I ever took that was an official class that
185 was in computing and it was in assembler, and moving on into how a compiler works.
186

187 And then ... after that, I discovered that — even as demanding as our work was and all that I
188 was learning involved — that a lot was beginning to happen and they began to have courses
189 at San Diego State. And one of the first courses that was mentioned was a course that was in
190 a book by Dan McCracken. And Dan McCracken’s FORTRAN manual was our bible, I
191 mean ... And so I said, “You mean the book is by Dan McCracken?” (It was called
192 *Combinatoric Principles for Digital Computers*.) “I got to take that.” So I went charging out
193 there to see if I could take it. And in order to take it, I had to get admitted and had to go
194 through some of the other steps. And so they said, “Oh, we’re not sure we can give you credit
195 for this.” “Why not?” “Well, you already know too much, you can probably teach it. But you
196 can sit in, you can audit.” So I wound up auditing Dan McCracken’s book and the teacher of
197 that course. And during the process of getting to know the teacher of that course, I got
198 offered an assistantship to come back to work as a Master’s student, which I did eventually
199 do.
200

201 So I had this first course at UCLA Extension. And then I had that second course at San Diego
202 State. And then eventually I entered their Master's program.

203
204 **B: When you were in college and high school you said there were very few females.**

205
206 J: Yes. In math.

207
208 **B: In math. And they hired you as a female in programming. How about your cohort**
209 **there? On the wind tunnel project, were there ... ?**

210 [14:40]

211 J: There were three people who did computation and computer operations and data collection.
212 Two of us were women; one of us was a man. The other woman was not a programmer. She
213 had been taught how to operate equipment, how to manage equipment, how to collect the
214 data on punch cards and put them in the right sequence, in the right order to get it run. She
215 was the person who first taught me how to operate the IBM 650. But then she had never
216 taken any programming training on the job, so she didn't do that part of it and she used to say
217 to me, "We brought you in so that we don't have to rely on the old division over there to
218 write all our programs. We got you now to write our programs for us."

219
220 So we wound up with about ten different kinds of computers. It was amazing. Some of the
221 really large computers were not in our building. And even the IBM 650 was not in our
222 building. We had get over to the other building and bump people off. The queue in those
223 days was humans standing in line. There were no operating systems. So you had to sort of
224 wait your turn and get on. And the minute they saw us coming, they would say, "Oh, no!
225 Here they are again." Because we had priority to bump everybody off and get our — because
226 the wind tunnel was being held up while we were gone.

227
228 That's when we got the roller skates. You might have heard the story about the roller skates.

229
230 **B: No, I haven't heard the roller skate story.**

231
232 J: Well, there was a time when Maggie and I were both on day shifts and the young man was on
233 night shifts at that time. And we had this real crisis project that was done for American
234 Airlines. We had to prove that the plane could — the one being tested — could take off in
235 less than a mile and land in less than a mile. And we were going to get this huge contract if
236 we could do that. And so they put us on sort of crisis mode and we had to go back over to the
237 IBM 650 like ten times a shift. They'd do a run and we'd charge over there. They held up
238 while we got back. We'd take another run over. Run back. Take another run over. And so I
239 hit upon the idea of bringing my roller skates to work. So I put my roller skates on and we
240 skated over there through this big, huge model design tunnel place. And we hit the deck in
241 the other building and they'd see us coming and say, "Oh, no, here they are again." But
242 anyway, we both found out doing roller skates for a while. And so I call that now "on-line
243 real-time" with roller skates, before on-line real-time was really possible.

244
245 So that kind of work, though, was exciting and fun because you really had to use all your
246 imagination about how to gather the data. We had not only just some punch card equipment

247 collecting data from the model as the wind was blowing down the tunnel, but we had little
248 pressure points on the plane where tubes would be there and we'd have oil flowing through
249 the tubes. We would have to photograph the manometer boards, they were called, where we
250 would see how high the pressure got pushed up in the oil. And so we would have to then
251 convert that to numbers and enter that into our programs and build in calculations. So I really
252 needed a lot of help with what formulas to use for all that, because it was kind of beyond me
253 on many occasions. So that was one of the reasons I kind of chose to go back to school. I
254 figured I could learn a lot more about the kinds of computations that are really needed for
255 practical engineering programs.

256

257 **B: So where did you ... did you continue in the airline ... in the wind tunnel aircraft**
258 **industry?**

259

260 J: Yeah, I was there full-time for three years and then there part-time after that. And there ... as
261 you may recall, a lot of the aerospace industry is up, and then down, and then up, and then
262 down. So there were a lot of cycles that occurred. So on a couple of occasions I was laid off.
263 And it was funny because my boss, his name was Gene Dearing, he would say "Well, it's
264 time to get laid off again because if I don't I going to have to lay off somebody with a family
265 and you're going to school, so, you know, there you go again!" And so I'd come back on the
266 breaks and come back on part-time jobs. But it was interesting, because I maintained the
267 connection with those people for so long. And I still have friends from those days who live
268 here in San Diego. A couple in other places, too.

269

270 But when I finally did stop totally with them and stay in school, I had by that time met John,
271 my husband-to-be — in a class. He was a mathematics major. And he had been in the navy.
272 And he had gotten out of the navy and he had started to college. And so I met him. Actually,
273 I met him and then, in the course using Dan McCracken's book. And later, it was so
274 gratifying to me eventually to meet Dan McCracken and to get him to autograph my book
275 from those days.

276 [19:53]

277 So then after I finished the Master's degree, I guess that by then it was what? 1963? Yes,
278 1963. Then John and I had decided to get married. He had a child from his first marriage,
279 John Jr., and he had sent him to Gettysburg, Pennsylvania, to live with John's parents. And
280 so he wanted us to move to the East Coast — just for a year or two; just for a year or two —
281 until this child could be assimilated into our household. So we moved to the East Coast and
282 John had gotten a job in San Diego with Allied Signal. So we moved to Baltimore just
283 "temporarily."

284

285 **B: Where do you live? [laughing]**

286

287 J: We've been there ever since. Where do I live now? It's funny, because it was really years
288 and years and years later when John retired, I think he was 55. He retired and he said, "OK,
289 we can move back now." You know, and I almost hit him, because after all these years, and
290 all these roots, and all these ... you know. "No, we're not moving back now."

291

292 **B: Was there a gap in your resume, then, when you married and moved back east? Or did**

293 **you continue directly in a career?**

294

295 J: Actually, I continued, because I knew that I was going to be having a stepson come to live
296 with me. So all the applications I had sent ahead of time were all to industry. And so I had to
297 sort of say, “No, no, no, I am not going to do that now. I want to get a job in teaching.” I had
298 been a TA at San Diego State. And so I was ... really enjoyed it. I had developed some new
299 courses for them. That was my first hand at developing courses. I developed the first
300 FORTRAN programming class that San Diego State ever offered and I taught it. So, it was
301 really ... I even wrote the book and sold it at the bookstore, because we felt that Dan
302 McCracken’s book was part of it but we needed more ... custom to our system. So when I
303 got there, I went kind of shopping for which school might need someone. It is ironic that in
304 1963 I applied to Towson University, which was then Towson State College. And they
305 offered me a job teaching five sections of algebra. And I said, “Don’t you have a computer?”
306 “No, no, no, we don’t have one of those things yet.”

307

308 So the only place I found that had a computer was Goucher College, a women’s college. And
309 they didn’t need anyone full-time, but they needed somebody to come and help manage the
310 new machine that they had gotten through the NSF. So I took a job at Goucher College and I
311 was called assistant director of the computer center, even though we didn’t have a center yet.
312 And I taught one course a semester: statistics. The other thing that was really a shock was
313 that they didn’t have any courses for credit, computer courses. And I said, “Well, shouldn’t
314 you be teaching a computer programming class, like FORTRAN programming, for all your
315 math majors?” “Oh, no, that’s not a college subject. That’s a skill and that’s like a trade. And
316 we’d love for you teach that, but we’re going to teach that after school as a club activity.” So
317 they had this different mentality about what was academic and what was not.

318

319 It was years later, probably after I had left there — I was only there three years — I got a
320 phone call from a friend at Goucher who said, “You should be interested today because we
321 approved computer science as a major today. And I know how hard you fought to even get a
322 course acknowledged. But we also eliminated Latin as a major, too.”

323

324 So I actually wound up three years at Goucher College in more or less an administrative
325 position. And I left there on purpose because by then my stepson had been more or less
326 assimilated into our home and I was getting called in all the time to run administrative work
327 on the computer. And running administrative work on a punch card IBM 1620 system with a
328 collator is not fun, and it takes a lot of time, and they would not allow me to hire any staff.
329 The only workers we had were students. And so if a student was supposed to get there and
330 didn’t get there, I would have to go in and run the work because it was needed the next day.
331 So I finally said, “I’ve got to leave. If you’re not going to hire any staff, you’re not going to
332 set up a decent computer center, then I’m going to leave.”

333

334 So I waltzed myself down to the Baltimore Junior College and said “I’m here to see if you
335 need a math teacher” (they didn’t have any computer courses, either; and that was by then ...
336 that was 1965, 1966). And so they said, “Well, yes, we do need a math teacher, but didn’t
337 you do computer work for Goucher? We’re getting a new computer. Did you know that?
338 We’re getting a new computer.” And it turns out it was an IBM 1620. And when I told them

339 that's what I had been working on for all those years at Convair and then all those years at
340 Goucher, they said, "Oh my gosh, we don't know what to do with it. Could you start this
341 week?" So I wound up getting placed right away at Baltimore Junior College, which became
342 Community College of Baltimore.

343 [25:29]

344 **B: Was this a teaching job or an administrative ...**

345

346 J: That was a full-time teaching job. And it was interesting that they had hired someone from
347 business who was in data processing, because by then there were majors in the associate
348 degree level in data processing. And he was kind of hired — and he knew all about unit
349 record equipment, punch card equipment, IBM-type collators, sorters; he knew all about that
350 kind of stuff — and they didn't have anyone who knew programming. And so they put the
351 two of us together and we became kind of co-chairs in creating a new department at the
352 community college. So it turns out so that as the unit record stuff was being phased out and
353 we were phasing in a lot more programming, we wound up with an associate of arts degree in
354 computer science, which was kind of rare at the time.

355

356 **B: Hmm. But you didn't stay there forever.**

357

358 J: No. I actually stayed there a little more than 15 years.

359

360 **B: Wow! Did you go back to school during that time?**

361

362 J: Yes, I started ... even when I was at Goucher I started taking classes at Johns Hopkins
363 University. They also did not have any computer courses. But they had a doctorate in
364 operations research, which was very practical, very hands-on type engineering applications.
365 So I took something like 16 credits of coursework there, even while I was at Goucher. And
366 then after I went to the community college, I stopped that for a while and then started
367 shopping around for a place to transfer that work to continue work towards a doctorate.

368

369 I finally kind of had a compromise solution at the University of Maryland, College Park.
370 Because I didn't want just straight computer science after talking to some people about it at
371 Delaware and College Park both. I wanted computer science with education and especially
372 with educational administration, computer centers and facilities for universities. And that was
373 kind of out of the element. They said, "You can go to business ed and teach typing. Or you
374 can go to computer science math ed and teach calculation. But we don't have anything in
375 between." So it was really fortunate that Dick Austing was there and I had met him. And a
376 couple of other people came together, even Bill Atchison was on my committee. And they
377 convinced the education people, under educational administration, that there should a way to
378 do an interdisciplinary doctorate. So my doctoral program had additional courses, some in
379 math, some in business administration, and some in computer science. But they were all kind
380 of geared towards the administration of college, university computer centers.

381

382 **B: So who was your ... was your advisor ... ?**

383

384 J: My advisor was in the college of education. And he was Robert Stephens. He was

385 predominantly in educational administration. Most of those people were going to become
386 principals. So I was an oddball in the whole process.

387

388 **B: And you were teaching in the community college while ...**

389

390 J: I was already teaching ... I was already teaching at the community college. And I had
391 already by then become the department chair, which we called Computer Information
392 Systems. We called our department Computer Information Systems. Because we had this
393 combination of data processing and computer science both, which was when I came together
394 with the fact that you do not only the scientific work, like the wind tunnel work, but the
395 administrative work, like the Goucher College payroll, for example, and scheduling. And all
396 of those are needed in this computer field, so I really wanted to be at a place that would allow
397 those to be. So when I was still working on my doctorate, I had taken a year off to spend
398 pretty much full time on my coursework. And I did an internship for the state of Maryland,
399 which was a statistical study of ... it's called the Governor's Commission to Restructure
400 Higher Education. And I was assigned to work with one of the contractors to gather data and
401 to do projections and research projections on what are the needs in the higher education
402 system in Maryland. So I did a lot of statistics and a lot of programming. And we used the
403 Delphi technique, mostly for projections. So it was a wonderful experience.

404 [30:10]

405 But since I had already been teaching in the community colleges, I kind of thought I didn't
406 need those courses, but they made me take them anyway. And I still hadn't finished my
407 doctorate! And I taught one semester at College Park, so I had the experience of teaching a
408 huge section, 150 students, with five TAs. And after that semester, when I got very little done
409 on my own degree because I spent so much time teaching the TAs, and then helping the
410 students at other times, that handling that one course — it really taught me how difficult it is
411 to teach large section courses with TAs. I swore that when I took any other job it was always
412 going to be with reasonable size classes.

413

414 And so when I was supposed to go back to the community college, after my year off, I was
415 presented with an offer from Towson State (it was still Towson State at the time) to come
416 and teach for them. And I thought, "I'll do that temporarily," because there were certain
417 situations that were going on at the community college that were very displeasing to those of
418 us in our little new department. We were very upset at some things that had happened just
419 above us, at the next level up, and some things that had happened in my absence were very
420 disturbing. And so it turns out that five of us went in and submitted our resignations to the
421 Board of Trustees all the same day.

422

423 **B: Oh my!**

424

425 J: It was interesting, because they said, "Well, what are you going to do?" I said, "I don't have
426 a job, but I got an offer from Towson State. I can come and teach for them if I want to, but if
427 I do, it is definitely temporary because I don't want to be there permanently."

428

429 **B: Not you! [chuckles]**

430

431 J: And it turns out, because I had memories of that offer to teach five sections of math way
432 back in the 1960s. And I thought, “I got to see what they’ve got!” And sure enough, their
433 equipment and their programs and their initiatives were worse off than the local five or six
434 community colleges. Their equipment was out of date. They were using an old state system
435 that hadn’t been updated in 10 years. And so when I went there, I thought, “I’m never going
436 to stay here.” But they had some new people coming in at a level that had some influence. So
437 they started making changes, enough so that when they suggested forming a department,
438 splitting for math, I was all for it. And I was promoting that and pushing that. And so I
439 became the first department chair of the new department. So that’s when I decided, “I guess
440 I’ll stay.” And they also allowed us to name our department, not just computer science, but
441 computer and information sciences, plural. So that we could bring in other kinds of programs
442 related. So I guess I’ve always been promoting the breath of the field.

443
444 **B: So you hadn’t finished your Ph.D. yet?**

445
446 J: No!

447
448 **B: And you’re department chair of a new department.**

449
450 J: That’s right. In fact the new department ... I went there in 1981 — temporarily — and in
451 1983 they decided we were going to have a separate department and I got named. But the
452 department didn’t exist officially until 1984. And it was in the fall of 1984 that I got my
453 doctorate finished and graduated. So I got named department chair as an associate professor
454 and then I got promoted after my doctorate to be full professor.

455
456 **B: Well, this is a good time to go back into professional service, because the computing
457 community is certainly aware of many, many of your activities that have really helped
458 the computing community. And I know that they started way back before you went to
459 Towson. Do you want to talk a little bit about the professional service and how you got
460 so deeply involved?**

461
462 J: Well, you know, at San Diego State, when I was a grad student, I attended meetings of the
463 ACM. And I joined as a student member, way back then. But I wasn’t really active and I
464 didn’t do a lot. And then, even in Baltimore in the 1960s, I went to the Fall Joint Computer
465 Conference almost every year — it was in Atlantic City most of the time. It was really
466 invigorating and energizing, in that so much was happening and you met people from all over
467 the country.

468 **[34:38]**

469 But it probably was the first occasion that I really got involved was the year we lived in
470 Boston, when my husband was given a year, called the Government Mid-Management
471 Career Program — by then he was with the Social Security Administration, which is why we
472 didn’t leave to go back to California. It’s because he took this grandiose job at Social
473 Security Administration headquarters. And so the year that he went for his Master’s at
474 Harvard, we lived in Boston, we lived actually in Cambridge. I attended the ACM conference
475 that year and was very active in a lot of the activities that went on that year. And got pretty
476 much involved and found out they had an Education Board and they were doing curriculum

477 work and stuff. And even in Boston I taught at Chamberlain Junior College, which is on the
478 Commonwealth Park, with something like 15 buildings in that area of Boston. I had to
479 develop syllabi and course outlines and equipment needs and all that for every course that we
480 were doing at the time. So I really had gotten myself ingrained into course development and
481 curriculum activity, even at that time.
482

483 But it was in 1972 that I went to the Fall Joint Computer Conference. One reason I remember
484 that date is because it was just about 8 weeks, 7 or 8 weeks, after my son was born. Rob was
485 born in March of 1972 and we had come back from Boston in 1968, 1969, and early 1970.
486 And I had gone back to teaching at the community college. There were meetings there about
487 curriculum and that's where I met two very influential people in my life, Dick Austing, this
488 was in 1972 — it was long before I ever had talked to him down in College Park, which was
489 later on — and Jerry Engle. I had met them at one of the book receptions. We wound up
490 sitting and talking almost all the evening, just on and on and on. It was so kind of
491 invigorating about what they were doing at the different places where they had been and
492 where they were.
493

494 They had said that they were active in the ACM SIGCSE. I had been ... I think for the first
495 time, I think I went to one of the first meetings in the late 1970s. And it was 5 years after, I
496 think it was probably 1978, that I was invited to one of the Ed Board activities. I realized
497 after listening, and watching, and hearing, that number one, they were promoting computer
498 science, but nothing broader. And number two is they were being very exclusive, in that they
499 were not necessarily considering programs except for 4-year and higher — 4-year, Master's,
500 and doctorates.
501

502 And so I wound up speaking up a few times about it: "But, you know, there's a lot of other
503 people doing things in this field. And actually the community colleges were among the first
504 to ever offer courses. They offered workplace-type need courses." So I went to meetings
505 there and then later on worked on some of the SIGCSE activities. And eventually got so
506 outspoken, I guess, that SIGCSE offered us (I think at the time that Dick Austing was the
507 chair, I think) that at the next conference they were going to hold, if we really were serious
508 about doing something at the community college level, that they would provide support
509 money to get our group started. So I think it was at the — maybe 1975, 1974 or 1975 — that
510 we started the community college committee of the Education Board. And by 1978 we had
511 published three curriculum reports, which apparently is the first time that any association had
512 published curriculum reports for 2-year college associate of arts degree.
513

514 **B: I'm getting a little bit foggy on the timeline.**

515
516 J: The timeline.

517
518 **B: Were you still in the community college at that point or were you in the graduate
519 program in ... ?**

520
521 J: No, I left the ... let me think now. I was at the community college from 1965 until 1981.
522

523 **B: So you were there during this report.**

524

525 J: So during this time ...

526

527 **B: So during this report period you were there.**

528

529 J: I was actually from the community college at the time I was speaking up. And then later — I
530 think it was probably 1982, 1983, 1984, after I left the community college and went to the 4-
531 year college — I still remained on that committee for a while. I was the chair of it for about
532 six years. I'll have to check the dates on that.

533 [40:01]

534 **B: It's the flavor that we're after, not the ...**

535

536 J: Yes. Right. Not the exact times. So I kind of promoted and pushed. And eventually the ACM
537 Education Board set up a community college committee, which still exists today, I'm proud
538 to say. And some of the same people that we had initially worked with have remained leader.
539 And we have a lot of new blood also coming in. But that's been something I'm really, really
540 proud of, is to break into that mode so that they are more recognized.

541

542 In fact, there were some reports that came out about that time. The Manpower Commission is
543 now called the Commission on Professionals in Science and Technology — CPST,
544 Commission on Professionals in Science and Technology — but it was the Manpower
545 Commission, before the Washington Area helping organization. They came out with reports
546 that the whole workforce studies had always ignored — the two-year college graduates —
547 and what they could do and where they were. So I had spent a little time working with Betty
548 Vetter and got some of those quotes and some of that evidence to show ACM, in order to
549 show that this area was not necessarily being recognized. And it turns out that not only did
550 ACM recognize them, but so did the NSF. Because now community college people get
551 invited to be panelists, to review proposals, to recommend. And now even the federal
552 government collects two-year college graduate data. So I think about the same time that I was
553 pushing it within ACM, other people were pushing it in other places, so that it got eventually
554 very well recognized.

555

556 **B: You were very active at that period of time. You had a young son and you were juggling**
557 **a lot. Finishing up a degree.**

558

559 J: Yes. Yes. Right.

560

561 **B: How did this ... how did you juggle it all? How did you do it all?**

562

563 J: Well, you know, I had a very supportive family, especially my husband. He was very
564 supportive. And I'm sure there were times that he wished I weren't so involved! But we were
565 in Baltimore and I didn't have any family there. I didn't have built-in babysitters. I didn't
566 have family to help take charge, or to tend to things. I even went on trips; I went to SIGCSE
567 meetings. And yet I had developed this wonderful rapport with a bunch of folks that were so
568 helpful. One of my neighbors had 12 children.

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B: Oh, my!

J: And so ... it's funny, because I had sort of cultivated her friendship long before Rob was born. Rob was kind of a surprise, because we had been married quite a number of years by then and our stepson had grown up to be now 14, 15 years old. He had moved in with us when he was 8; we had gotten married when he was 7. As a result, we thought this wasn't going to happen. But it turns out he was a wonderful surprise. And so I knew all my neighbors. I knew the family. I had a very active church life by then. The woman who was the church nursery caretaker became Rob's personal babysitter. The woman who had been my housekeeper became one of Rob's babysitters. Several of my neighbors had been taking in children for daycare, and so I used them some. And then of course the neighbor with 12 children gave me one and two years later gave me the next one and two years later gave me the next one. I had all kinds of supportive help in doing things around the house. And my husband really had always been the type to take over a lot of the responsibilities. So it was really a lot of help. I had a lot of help.

B: What kinds of ... what was your attitude toward research? The kind of research you did was very practical (is that what I am hearing you say?) through your academic career?

J: Very. In fact I really did not want to be at a Research I university. I did not want to be in a total research setting because I really loved engineering. And even though I did not go to an engineering school, my work in operations research at Hopkins was very practical use of math and use of computing to optimize how you can do things, efficient ways to do things. I loved the application of mathematics to that kind of thing.

[44:54]

And I guess because of my curriculum activity, I got very interested in how do students who go to programs let the workplace know what they can do? Because we didn't have any real easy way and most people in industry who were doing hiring didn't know the difference between computer science and several other degree programs that were evolving. And so someone could go to high school and study this or someone could go to practical trade school. So how to have industry be aware of what a student could do, as far as capabilities, was of a lot of interest to me. I kind of got involved in evaluating and looking at certification exams and what kinds of things they could do.

And at one particular ACM meeting, Fred Harris was giving a talk on the creation of the ICCP [Institute for Certification of Computing Professionals] and he said that they were going to end this registered business programmer exam, which I had been having my students take because they could show that to the employer, not just with degree, but now they have this certificate thing. So I got up and made some ... choice comments about how you are not helping the industry unless you give students ways to show what they can do. And the changes that they were making I didn't think were so impressive.

So, as a result of speaking up at that meeting, I kind of got invited to attend some meetings that the Institute for Certification was holding. Apparently, the institute had been formed in

615 1973 and it had taken over the certification exams of the DPMA [Data Processing
616 Management Association]. So one of my first kinds of research was: What good are they?
617 What are the good things about certification and do you have a viable career path? And it
618 turns out that my doctoral dissertation research was a follow-up study of graduates of two-
619 year colleges and their career paths ten, fifteen years later. And so I had been so proud
620 because I had developed, actually, a mathematical model of career pathing. My education
621 advisor said, “We don’t need that. You need to find out if they’re happy.” So, you know, I
622 wound up doing a lot of things, and questioning ... social research and personal things, a lot
623 of things that were kind of unrelated to my mathematical model that I wanted to use. A lot of
624 that was finding out that the kinds of research that people are interested in was different ...
625 varying at different places.

626
627 So I then began to study workforce trends. I did a study on gender and workforce trends way
628 long ago. I did a study on certifications by the states of their teachers. I did another study on
629 demographics, like where are the ... this was an early diversity thing, this followed up on my
630 doctoral dissertation. In fact, I discovered that most are men and most are white and most are
631 WASP — White Anglo-Saxon Protestants. And the next was *way* down and it was Asian.
632 And there were no blacks, no minorities. That was one of the other things that I carried with
633 me to the community college, that some of this needs to be promoting. And so as the
634 community college where I was teaching became more interested in attracting minorities, we
635 were certainly there to try to lure them, and get them involved in that. It was interesting,
636 though, that in several of the studies I did, it was the minorities who didn’t want to return
637 their survey forms. In spite of the fact that a few of them were going into the field and they
638 didn’t want to be involved. So, you know, you think, “Well, there’s something else going on
639 here that we need to be interested in.” But a lot of those really never came to too much. I
640 actually probably wrote more about curriculum than I did about anything else.

641
642 Then, let me think. What was the other? Oh! I got very interested in promoting the use of
643 software engineering because of government jobs. Government jobs for a time, after a huge
644 workforce study had been done on the federal government workers, and knowing — because
645 my husband was with the federal government as a worker, and I knew a lot of people in the
646 Baltimore-Washington area who were working for the federal government — they did a
647 study and as a result recommended the creation of some institute that would promote
648 education for government workers and would give government a way to determine what are
649 the good practices to be able to be used in software development. And that, of course,
650 became the Software Engineering Institute — that became SEI. So I kind of followed the
651 work that led up to the creation of SEI and then also followed a lot of work that they did and
652 began to attend a lot of the software engineering activities.

653 [50:18]

654 **B: During this period of time you’ve mentioned some names. It’s an almost symbiotic**
655 **relationship between you and many of the people that you were professionally involved**
656 **with. I normally would ask the mentoring question — who were your mentors? But it**
657 **almost sounds like listening to you that it’s a co-mentoring process. Do you want to talk**
658 **about mentoring, professional mentoring and as a teacher?**

659
660 J: That’s an interesting question, because I really am so strongly convinced that mentoring is

661 important, mentoring is useful, mentoring is very helpful and that we need more role models
662 of people to do mentoring. But I've never been really active myself, in considering myself
663 doing it or even in using it. It turns out that in most of my situations it's almost been a
664 collaborative endeavor, not necessarily a mentoring endeavor. There've been several
665 colleagues who I worked with who helped me a lot and then I helped them a lot, but they
666 were in different kinds of things. I don't have any specific people to name as mentors, unless
667 of course you name some people like the ACM folks — Dick Austing, for example. He really
668 became a mentor to so many people and was encouraging. I think, even though you don't
669 necessarily consider those people mentors, you consider them influential. They gave
670 influential encouragement at time when it was very important.

671
672 At one point in my life I almost stopped my work in completing the doctorate. And it was
673 Dick that stopped me. He said, "That's not a problem." I said, "Well, I've got this incomplete
674 in this one course and now this professor is leaving the university." Because of politics they
675 were rearranging the way courses were in Maryland. And that whole department was being
676 shifted and he was leaving. And I wound up being told that he couldn't finish this project I
677 was working on. And I was just beside myself. It was like the last official credit ... course I
678 needed. It was at the time, too, when my son was little and I was really busy and I was
679 working. And I was commuting to College Park one day a week and a half a day another
680 week and just the commute itself was tiring. And so I just kind of began to think, you know,
681 "Is this really worth it?" Especially I was older, anyway, to be finishing this. He said. "Of
682 course, it's worth it!" He said, "You let that incomplete sit on your transcript the rest of your
683 life. You don't need it. Pick up another project. Do something different." And he helped me
684 find another project that turned out to be really enlightening, interesting, exciting. It was a
685 study of hospitals implementing one of the Medicare laws.

686
687 **B: Really?!**

688
689 J: He sent me, like, a 100-page document to read about it and said, "That's not enough. We'll
690 just have you sent over there." And I learned so much about requirements analysis in that
691 particular task, because being there and watching how things had to happen was a real
692 learning experience. And I went away knowing, "OK, now I know what we've got to do." It
693 was a multi-hospital setting, too, which needed satellite transmission. So it turns out I had to
694 get into that: Costs of satellite transmission, what times are they passing over, when can you
695 transfer your data, and so on. So it turned out to really be a wonderful experience. It wound
696 up I was finishing. So in that sense I guess it's not a mentor, but it certainly is an influential
697 advisor. And I've had several people like that who were helpful and supportive.

698
699 **B: Now you're toward the end of your career and you're a very senior person at the**
700 **university. What gives you the most joy at the job and in the profession, looking back?**
701 **Right now. Where you are now. What are your major joys?**

702 [54:43]

703 J: Well, I'm very ... I'm very ... gratified, I guess is the right word, gratified to think that that
704 at several points in my career there have been something that I recognized that needed to be
705 done, and by speaking up and by getting some others to speak up, we were able to
706 accomplish something like the community college movement. And there were other things

707 like that — the information systems movement. They were also not accepted within ACM, or
708 the Education Board. They had not been recognized as one of the disciplines. And a couple
709 of people who spoke up about that, and I certainly jumped on that bandwagon to support it
710 after my management at Goucher College and running the computer system to do practical
711 work. So I think those trends in the field and the changes that occur at certain points in time.
712 It's interesting to look back at the history and see, like, when did that happen and then be
713 opened up to that.

714
715 And especially now that we're, as a profession, we're promoting breadth in so many ways.
716 And NSF has a program called Broadening Participation, which predominately they intended
717 to be broadening of the demographics, bringing in minorities and women and so on. But
718 broadening ... to realize that computing is everywhere and it is needed in almost all the
719 disciplines, is another part of broadening that I think is really important. And I guess I've
720 kind of been pushing that, too, for a long time.

721
722 **B: And I do want to say, because we don't have a video going on, that your eyes just began**
723 **to sparkle. You weren't looking back, you were looking ahead and just looking at that**
724 **next challenge.**

725
726 J: Interesting. So there are several things that I've been proud of. I was really also very
727 gratified, and been totally disappointed, at the workforce studies that have been done on
728 academia. And, of course, a lot of those movements have succeeded. I was actually — in the
729 1960s and early 1970s — I was on an accreditation committee of ACM that resulted in
730 accreditation standards for private institutes teaching computing courses, not degree, but they
731 were kind of called "degree mills," because they were private and students paid a lot of
732 money and went in for training and then were not sure what they learned. So I worked with
733 some very prestigious people on that early committee.

734
735 And then later it turns out that accreditation picked up steam again. Later on, I was not
736 involved in that second wave, but I was certainly supportive of it and was really pleased to
737 see the accreditation movement to accredit computer science programs take off. And that
738 seems to have sort of slowed down, even though they're now starting to accredit information
739 systems type programs.

740
741 But the thing that I have really found gratifying, even though I did not work on it, was when
742 the Education Board finally came out with, like, five reports. And one of the side things that I
743 was really pleased about is that in our early two-year college work, we had one report of
744 those five we did that was called Computing Across the Disciplines. And it's now called
745 Computing Across the Curriculum. But even now the ... all of the reports of ACM have got
746 components about how this program, like software engineering, can be used across
747 disciplines, or how information systems can be used across disciplines, and so on. So that,
748 that whole movement of bringing it across the disciplines, is the kind of breadth that I am
749 pleased about, glad to see happen.

750
751 **B: I am going to go from breadth down to narrow.**

752

753 J: Oh! OK.

754

755 **B: The narrow is: Can you tell me something about your teaching philosophy? You've**
756 **been in the classroom a lot over a long period of time. How has your teaching style**
757 **changed, do you have a philosophy? One thing I heard you say is you didn't want**
758 **another one of those 150-student classes with five TAs to manage.**

759

760 J: Right.

761

762 **B: But what kinds of things can you tell us about your attitudes ... your ideas about**
763 **teaching and how they've changed or matured?**

764

765 J: Probably one of the major influences in my teaching was the fact that my first experiences of
766 learning in this field were on the job, were training programs on the job, or self-study on the
767 job. So I really believe in learning by doing, learning by practice, learning by doing. And so I
768 try to bring into the classroom, under the constraints that we have in the classroom, practical
769 experiences. I have always tried to bring in graduates of the program and let them tell about
770 their experiences. I have always included stories, you know, like the story of what happened
771 and what was the moving point that brought that to bear.

772 [59:55]

773 And so, when the movement came — teaching and learning movement — several
774 organizations of higher education were promoting the teaching and learning movement.
775 Which is more of a constructivist philosophy, that students learn, retain more about what
776 they've learned if they themselves have processed it through their own brain, rather than just
777 surface knowledge or listening to somebody or reading about it, that they have to actually do
778 something with it. And so I've always tried to have in-class activities that students can
779 participate in. I encourage a lot of discussion. I sometimes have small group discussion —
780 three people talk about this question. It is especially easy to do that in courses of societal and
781 ethical issues, societal and ethical concerns. It seems that in those kinds of courses that's not
782 only easier to do, but most of the computer science majors don't know much about it to start
783 with, so there's a lot to learn.

784

785 In regular programming classes — which I haven't really been teaching for a while — it
786 seems like as you move forward in your field and you're able to pick and choose more like
787 what you'd like to do — and I've sort of co-developed (it was first with Doris Lidtke, before
788 she left), we developed the first courses we had in what we called computer ethics, but they
789 were societal and ethical concerns for computer scientists. In those courses, we didn't really
790 expect to be so successful or to take off. And we thought we'd run out of material and it turns
791 out they have just really done well, succeeded very well, and students really tend to enjoy
792 them a lot, they say.

793

794 And of course when accreditation bodies, ABET and CSAB, when they said that you must
795 include that kind of thing in accredited programs, it kind of gave it a stamp of approval. So
796 we use a lot of in-class exercises in those classes, like debates, you know, you've got to argue
797 your way through a point. And even in my other classes, I've been teaching several gen ed
798 [general education] classes recently.

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And I also teach the undergraduate elective in software engineering, which is, of course, one of my favorites. And people come in thinking, “Oh, this is just another programming class,” but no, it’s not. It’s not another programming class. It’s about computer programming, but it’s not to teach more in computer programming. But we’re using process models from the Software Engineering Institute. We teach process models. We teach estimation. We teach how to better manage a project, what to look for, how to know about ... how to manage it. What are all the design alternatives that are there, and what are all the different modeling methods that you can use to do it with. And so students, instead of writing a program, will maybe have to write a test plan for a system or something related to that. That’s really been a joy. Apparently it has been very well received locally. Although there’s no particular standard for that anywhere, not even in the new software engineering curriculum, which would start — the software engineering curriculum model that the ACM developed starts off doing that early on, so it’s a totally different approach. But for computer science majors who have never had any of that, doing that kind of thing is what I would like to think of as a capstone. And having them handle some of it and do some of it has been really gratifying, in that they come back from job interviews saying, “Gee I’m glad I knew what CMM stood for!” And so that’s been one of the things I enjoy the most.

The most recent thing that I’ve been working on is using computer history in advanced composition. We have a general education movement called Writing Across the Curriculum, lots of schools have it. And I started developing this a few years ago and then got interrupted by a leave of absence and so on, but now I am finishing it up. We developed an outline and experiences and some support letters for creating a new advanced composition course, which is called Second Writing. Many institutions only require freshman writing, but if an institution is a member of the Writing Across the Curriculum Consortium, you have to teach advanced composition, which is writing in your major. We currently don’t have writing in our major and our students wind up taking business writing or history of science over in physics or something. But this would be a history of computing and information technology and it would involve a study of our discipline and writing about our discipline. And so that’s one of the newest exciting things I hope to get accomplished before I retire.

[65:03]

B: As we are sort of winding down here, do you have any strong outside interests, outside of computing, that would help us maybe see who you are better?

J: Yes. I have had lots of interests over the years, but it turns out that a great many of them are classified as literature. I read all the time. I have always had a love for science fiction, even though it was not popular when I came up. I have been trying to use movies and science fiction film clips in classes to show points of what might happen in privacy if we aren’t careful.

I really have become a real aficionado, I guess, of film — what do they call them? — film festivals. And institutes. I joined AFI [American Film Institute]. They have a theater in Silver Spring, Maryland, and they often show classics or they often show documentaries and so on. So that’s one of my causes.

845 The other one is tennis. I'm just wild about tennis. I've always played tennis since college.

846

847 **B: I know, you had a little ... you couldn't play tennis there for a while.**

848

849 J: That's right!

850

851 **B: I remember you saying that. So clearly you got back. I wondered about the roller**
852 **skates, that they must have allowed you to start doing physical activity again.**

853

854 J: Yes, they did. In fact, I started doing physical activity again and even played tennis again, not
855 right away but after a couple of years after that illness. I even played on a women's
856 basketball team for Convair. That was three years after my illness. And, you know, everyone
857 had said, "Oh, you have to be so careful. You don't want to have another breakdown or have
858 that recur," which always can happen with tuberculosis. But I've been fortunate that I've
859 been very healthy.

860

861 And my women's basketball team at Convair, we had some wonderful times. We never
862 entered competitions to try to win a tournament against schools, but we constantly were
863 playing — what you call? — exhibits. We played the Navy one time, the Navy men. We
864 played ... the Marines was the one I recall so much. We played the Marines. Convair
865 women's basketball team played the Marines enough that we got our picture in the paper.

866

867 **B: Wasn't women's basketball in those days 3-3?**

868

869 J: When I played in college it was 3-3. When I went to Convair and was playing, we played
870 men's rules: five on a court, all the way up and down. But when I was playing in high school
871 it was 3-3. And you only played half-court. And then, even when I went to college, it was 3-
872 3. I forget what year it changed, frankly.

873

874 **B: I played 3-3, so I don't know and I could look up what year.**

875

876 J: You played 3-3. Then you know. But it turns out that my women's basketball career in
877 college, in Northeast Louisiana State, was that we were called ... we were written up in the
878 campus newspaper as "The team that's all ready, but never can get to go anywhere," because
879 many of the schools in Mississippi, the colleges in Mississippi, had women's basketball
880 teams that traveled everywhere. Our women's basketball team played mostly intramurals and
881 demonstration exhibit games against people to make money for causes. And we would
882 occasionally get to travel to another place because the men's basketball team was traveling
883 and we could go with them. But we didn't really have a competition in college like you
884 would normally today expect. That was before Title IX.

885

886 **B: So tennis became "The Sport."**

887

888 J: Yes. And I still ... in fact I discovered several friends in SIGCSE who like tennis and we
889 used to sneak away and go play one tennis afternoon in SIGCSE. And also the NECC
890 conference, the National Educational Computing Conference, I attended for quite a long

891 time. And there were groups there that would sneak away and go play tennis. And then we
892 got to ...

893

894 **B: Big dark secret: “She sneaks away to play tennis.”**

895

896 J: “Sneaks away to play tennis.” And in fact, now bunches of us meet up at the US Open, we
897 attend on Labor Day weekend — several of us, there’s sometimes as many as six women
898 who meet up there — to enjoy the US Open tennis.

899

900 **B: Cool! Well, if you had ... at this point, if you had advice that you would give to a young
901 woman starting out in computing, what would it be?**

902

903 J: Don’t let people hold you back. You know, don’t be shy. Because I was very shy and I was
904 not necessarily going to speak up until I got angry. And I waited a lot longer that I should
905 have in many cases to speak up or to say something or to present my opinion. I think that
906 they should just move on and when they have opinions or attitudes or expressions, they
907 should express them and find others with common interests and common causes to work
908 with. Because there’s just a lot of wonderful people out there who need colleagues to work
909 with. And so try to find them.

910 [70:19]

911 **B: This is a totally different kind of question. If you could change one decision that you
912 made along your career path, could you think what that might be?**

913

914 J: [long pause – removed about 13 seconds of silence] No, I never thought about that before.
915 Probably, though, looking back ... You see, a lot of times when things happen to you, you
916 don’t think of it as a blessing until years later. You discover ... you thought it was terrible,
917 but looking back — that illness I had in college was really a blessing. You know, you look
918 back and you think, “But for that illness, I would have remained a phys ed major, been a
919 basketball coach in high school, and married ... ”

920

921 **B: The little boy in Louisiana ...**

922

923 J: ... the guy who was the star of our campus basketball team (who I dated for years). But
924 because of that illness I really had a total turnaround in my life. And I think sometimes you
925 have to — well, the way we expressed it then is “You have to fight while you’re lying flat on
926 your back.” And you don’t realize that, in performing that fight, that you are actually
927 thinking through situations and that you make turns in your life that you would not have
928 made otherwise.

929

930 And so looking back, I think probably the only thing I didn’t do soon enough, I didn’t start
931 the doctorate soon enough. You know, I waited a lot longer. I just had so many other
932 interesting things to do with my life, I guess, that I didn’t start that right away. And I
933 remember when I got married, John said, “Are you done going to school now?” [laughs] So I
934 probably, you know, I guess I probably would have started it sooner. Even though it was so
935 difficult to find what I wanted, because I was ahead of my time a bit. So I didn’t find a
936 program like I really wanted, until I had to design it. And now, young women can find more

937 that's available to them now. So I would say that they should be more aggressive and move
938 quicker to check out some of these options for themselves.

939
940 **B: The final question. If there's one story (and you've already told the roller skates).**

941
942 J: Yes!

943
944 **B: If there's one story that you would like to be sure got in the record, that you wanted to**
945 **be remembered for, or that you just chuckle about something that happened in the**
946 **classroom, or any one story that we'd say, "Oh, yeah! That's a Joyce story."**

947
948 J: [whispering] One story. [long pause — removed 6 seconds of silence] That's a hard question.
949 What one story — like the Grace Murray Hopper and the bug, the moth she collected. What
950 one story? [long pause — removed 4 seconds of silence] I don't know that I have any except
951 the roller skating story, I guess the roller-skating story.

952
953 **B: Well, we'll take the roller-skating story — for real-time computing.**

954
955 J: Yeah, real-time computing before it was real time. Gee, I don't know of another.

956
957 **B: I think we can take that one.**

958
959 J: You think you can take that one! It's funny and fits. I mean, some of the biggest influences in
960 my life have been non-professional, so I can think of some stories there.

961
962 **B: You can tell me a non-professional one, because that was one of the questions. What**
963 **things keep you ticking on the outside. The football story that isn't on the record?**

964
965 J: Oh yeah! The football story of the dinner I prepared. And there was another dinner that I
966 prepared that was also way up there in the competition, which my stepson and my son got
967 into a big debate and wound up ruining Christmas one year. I mean, it was just unbelievable.

968
969 **B: Do you remember the topic of the debate?**

970
971 J: Yeah, yeah. The topic of the debate was — the two boys began to compare and one criticized
972 the other about what they were or were not doing for their parents. So it involved us, which
973 made it even worse that they got into this argument. And they didn't speak for a year after
974 that. And they both left! And one got to the airport and flew back to Texas, you know. And it
975 took a long time for that to be resolved. I mean, that was awful. It ruined that Christmas
976 dinner — that I had cooked already.

977
978 The other experience that has definitely changed my life is living in hospice for four months
979 with my son who was dying of melanoma. And yet he was feeling good except that he was
980 paralyzed. He was mentally alert and capable. And you know, it really ... it is actually the
981 first time, I guess, that I have ever just dropped everything and left. And it has changed me a
982 lot. And probably for the better. It has in fact brought out the strong need for high touch to be

983 combined with high tech.

984

985 **B: I must say that Joyce is very emotionally moved right now. She is in tears, but she is**
986 **very peaceful about this. And it's a lovely way to end and say thank you for your time.**
987 **You're a beautiful person and I'm glad that you gave me the time. Thank you.**

988

989 J: Thank you. Thank you. It means a lot to me.

990 [76:24]