

1 **Andrea Lawrence**
2 **Spelman College**
3 **6 November 2007**
4 **Bellevue, WA USA**
5 **Interviewer Barbara Boucher Owens**

6
7 **B: All right. This is an interview with Andrea Lawrence from Spelman College**
8 **conducted by Barbara Boucher Owens. It is being recorded on the 6th of November, 2007 at**
9 **Bellevue, Washington, USA. It is part of the Computer Educators Oral History Project.**
10 **Did we give and pronounce your name correctly.**

11
12 A: Yes you did.

13
14 **B: Good. We're going to start way back when, all right?**

15
16 A: Yes.

17
18 **B: Now did your parents have college degrees?**

19
20 A: Yes, they did. In fact, my parents finished college after I was born. My dad was on the
21 Veterans' Bill after World War II. So we all went to college together. Only I went to nursery
22 school.

23
24 **B: Well, were either of your parents in computing related fields, such as mathematics,**
25 **science, or engineering.**

26
27 A: No, my mom was an English major, and my dad started out to be a doctor in biology and
28 ended up as a teacher, so ended up in psychology.

29
30 **B: OK, were you a good student?**

31
32 A: I was a great student. I almost had to be. My mother was working at Spelman College
33 by the time I got old enough to really worry about grades, and she wasn't going to stand for me to
34 have anything less than A's. So I knew not to bring home anything that didn't look like that.

35
36 **B: Did you take courses in math and science that prepared you for college and your**
37 **study of math and science and computing?**

38
39 A: I really just took the standard courses, nothing special. I went to a small school that was
40 largely a boarding school. I was a day student. And there really wasn't a lot of choice. I took as
41 much math as we had which wasn't much. I didn't get past geometry. So when I got to college,
42 my decision to major in math was not predicated on that. It is just that I had always liked math.

43
44 **B: Tell us a little bit more about this boarding school that you went to. Were the**
45 **teachers taking a good interest in you and make you feel confident? Tell us a little bit about**
46 **that.**

47
48 A: Well it was an interesting school. It was a Methodist school, and really sort of an
49 outreach project. At that period there were a number of schools, places in the South, where there
50 were no high schools for the black students; or else they had to travel miles and miles and miles
51 to go to a consolidated school because of segregation. So these schools were started around the

52 South to provide high school educations for black students. Mine was a girls' school, and the
53 teachers were very involved. It was very small, everybody knew everybody and everybody was
54 convinced that you were going to do great things. We all just knew we were going off to college
55 and we were going to have great careers because our teachers were so convinced we were going
56 to.

57

58 **B: And you did!**

59

60 A: {laughs}

61

62 **B: Well, did you have brothers and sisters who went to college and professional**
63 **careers?**

64

65 A: I'm an only child. So, no, it is just me. So all the hope was pinned on my shoulders.

66

67 **B: Well, all right. You had said you only went as far as geometry, but was there a**
68 **teacher or someone else in your early life who inspired you to pursue a career in math?**

69

70 A: Actually it was my grandmother. My grandmother was a sixth grade teacher. In fact she
71 taught me in the sixth grade. And she really loved math and always wanted to go further in math
72 so she kind of pushed me to excel in mathematics. So it seemed natural to go ahead and major in
73 it when I got to college. She made it fun. She gave me things to do, puzzles to solve, exercises to
74 do and made me see what I could do with math.

75

76 **B: Interesting. So you went to college. Why did you choose your undergraduate**
77 **institution?**

78

79 A: Well, it was chosen for me. Actually, I had the good fortune of being a Presidential
80 Scholar under Lyndon Johnson, one of the first Presidential Scholars. There were two of us from
81 each state chosen to go to Washington to meet the President, and at that meeting there were a
82 number of representatives from colleges and they said wherever you want to go, you can go.
83 We'll find money. And my grandfather said, "Oh, no. She's going to Spelman." So, I packed
84 my suitcase and went to Spelman. I really wanted to go to Oberlin because I had read about it. It
85 seemed like a great place with lots of intellectual ideas and a lot of new ideas. I really liked
86 Spelman once I got there. I think he knew better than I did where I needed to be.

87

88 **B: Well, did you know when you started Spelman that you wanted to major in math?**

89

90 A: Yes I did. From the first, I knew I was going to be a math major. There was never a doubt
91 in my mind. My doubt was what I was going to minor in, and in fact I couldn't make up my mind
92 so I was an English minor and a biology minor. And I thought I was going to put all that together
93 and become a science writer. So I was going to have the two science exposures plus English for
94 the writing. And my goal was to be a science writer.

95

96 **B: Do you ever do any science writing now?**

97

98 A: I really don't, except reports I suppose. But I just, you know, I just never got back to that,
99 but that's where I was sort of planning my career.

100

101 **B: What kind of support did you have at Spelman? Were there other women studying**
102 **mathematics, were there particular professors that encouraged you? What was it like for**
103 **you studying at Spelman?**

104

105 A: Well Spelman was, is I mean, it's an all women's college as well. So I went from a girls'
106 high school to a women's college. And the thing about being in that kind of environment is that
107 nobody thinks you're odd if you want to do well in math or science. Nobody thinks you're
108 unfeminine or anything, they just encourage you. So there were a number of us who went to
109 school together as math majors. Some of them have since become many things;...one of them
110 actually, a couple, went to medical school with the math major and they added biology to it. A
111 couple of them, I have heard about other places. Some women went on to get the higher degrees.
112 But it was never any question that we could not do it. That we would do it.

113

114 Our teachers were very encouraging. One in particular, Dr. Etta Falconer, was one of the first
115 black women to get a PhD in mathematics. And she was studying for her PhD while I was at
116 Spelman. She taught me. I remember she gave me one of the two Bs I ever got in college.

117

118 My sister got married the end of my sophomore year.

119

120 **B: Your sister got married?**

121

122 A: My stepsister.

123

124 **B: But you didn't have siblings.**

125

126 A: Right, I'm sorry. I didn't get my stepsister until I was 17, so I tend to not remember to
127 count her. But yes, we were both at Spelman, and she got married. And my mother was not in
128 favor of her getting married at the end of her freshman year. So she told us, she gave us a budget
129 and a book on how to plan a wedding, and told us if we insist on doing this we should do it
130 ourselves. Well we did, but in the process I didn't study for my final in calculus. So when I went
131 to take the test I did something I had never done. I stayed up all night to try to study. My mind
132 went blank. I don't know what I put on that paper.

133

134 So I went in afterward to talk to Dr. Falconer, and she said, "How could you blow this A average?
135 So I'm going to have to give you this B. It's going to hurt me to do it." She wrote it down. And
136 she said, "What happened?" And I told her my sister got married. She said, "Well I hope you
137 don't have any more sisters."

138

139 **B: So did she or others encourage you to go on for further education when you finished**
140 **Spelman?**

141

142 A: Well I didn't finish Spelman actually, I dropped out and got married and finished Purdue
143 later. But when I came back to Georgia to pursue my master's in computer science, not
144 mathematics, Dr. Falconer found me again. She took me under her wing, encouraged me, hired
145 me as a graduate teaching assistant at Spelman while I went to Atlanta University, and got me a
146 job at Spelman full time when I finished my master's.

147

148 **B: Well let's back up and find out how you finally got your college degree. When did**
149 **you leave Spelman, and where did you go?**

150

151 A: Oh I dropped out because I was in love, and we wanted to get married. And at that time
152 Spelman had a rule that you had to give them a year's notice if you wanted to stay in school and
153 get married. And we didn't want to wait a year. So I dropped out and we got married and he
154 finished Morehouse, which is the mens' school across the street from Spelman. And then we went
155 off to West Lafayette, Indiana, for him to pursue his master's at Purdue. Well since I was living
156 on a college campus I decided I might as well finish school. So I enrolled. Purdue was very
157 helpful. I went to school for in state rates, very inexpensive, and I finished. The same day that he
158 finished his master's I got my bachelor's, in mathematics.

159
160 And I was going to go on for my PhD in math. I had been admitted, had this fellowship. But he
161 decided he was not going to stay and pursue the PhD as he had planned, and he was going to go
162 to work in Cincinnati, Ohio. Well, it seemed like a bit of a commute. And if you think, 1970 was
163 not the time when women typically thought, well I'll go to school in this state and my husband
164 will be in that state.

165
166 So I followed him to Cincinnati, and didn't go back to school for several years and two babies.
167 Eventually I did go back to get my teaching certificate.

168

169 **B: In Cincinnati?**

170

171 A: In Cincinnati. So I went to the University of Cincinnati and did graduate courses to get
172 my teaching certificate, and taught high school math for a while.

173

174 **B: Oh. Did you enjoy that experience of teaching high school math?**

175

176 A: Well I did. Not at first. At first it was really sort of just a challenge. I was a substitute
177 teacher. What they call in Georgia a supply teacher. And I was going to all these different
178 schools. You had to find the school, you had to learn the rules. But then I was recommended to
179 work in a magnet program, a college prep school. It was a public school but still it was a magnet
180 college prep. And that was just wonderful because the students there knew if they didn't do well
181 they were going to have to go back to their neighborhood schools. They were about business,
182 everybody was about business, it was great. So I really discovered I liked teaching. That I really
183 enjoyed seeing the students, that feeling that comes over the students when they know they've
184 gotten that idea. And I said, well this is what I want to do.

185

186 **B: So somehow you ended up back in Atlanta. Do you want to tell us about that switch?
187 You're a high school teacher, you have two children...**

188

189 A: Three actually. Well my husband and I, I guess came to a midlife crisis, and we decided
190 to part ways. And I went back to Atlanta where my mom was and took the girls. And I said, well
191 if I'm going to do well I'm going to need a master's degree because I'm going to need to be
192 making decent money with these children. So I went over to Atlanta University, which is again
193 across the street from Spelman and Morehouse, and talked with them about getting into a
194 graduate program.

195

196 At first I was thinking about getting a master's of arts in teaching. And the chair of the
197 department of mathematics and computer science persuaded me that I really should get a master's
198 in a subject area, computer science or mathematics. When I started thinking about how long it had
199 been since I did a proof, I decided to go for the computer science. And I had done some computer
200 science courses in the process of finishing my degree at Purdue. In the process of getting my

201 teaching certificate I had done some computer related courses. And we had gotten a Radio Shack
202 computer and I had played around with that.

203

204 So I thought, well I think I'd like to do computer science, and the rest is sort of history as they
205 say.

206

207 **B: So tell us a little bit more about that master's and the...**

208

209 A: That was kind of an interesting experience because here I am, I've just moved from
210 Cincinnati to Georgia, run around and tried to find three different schools for three different
211 daughters and get myself situated. And I'm trying to figure out okay how do we do this? You
212 know it's been a while since I had been in school full time. I took courses for my teaching
213 certificate part time. So it's a whole different experience trying to be in school full-time, trying to
214 work enough. I used to joke that I had three part time jobs, one for each daughter. And really,
215 seriously, I was a graduate teaching assistant, I taught Pre Calculus at Spelman, while going to
216 school in Atlanta University, and I worked in the math lab.

217

218 Then I had a part time job working in the med school library. Because there's a medical school
219 also co-located with all these colleges. And if that weren't enough, periodically I taught BASIC
220 to children on the Apples at Spelman in the continuing education program.

221

222 But the job that really saved me was the library job, because it gave me about 15 hours a week
223 uninterrupted study time. If I was at home I had to do three sets of homework before I did mine.
224 But the girls didn't mind if I was off working and I wasn't helping them. They understood that.
225 And we lived with my parents. So they were able to feel supported, and not feel neglected, and I
226 was able to get some homework done.

227

228 **B: Were you doing any research? I mean I don't see how you would have had time,
229 but...**

230

231 A: Nothing except the research I did for my thesis, my master's thesis, which was actually a
232 study of criterion, a tool for helping students get ready for a criterion referenced test that they had
233 just put into place in Georgia. So I worked with a school, a local school, and developed software
234 for them to help them drill the students to get ready for the test.

235

236 **B: Were there particular people in that experience that mentored you?**

237

238 A: Well I was still interacting with Dr. Falconer, who was right there. And also Dr.
239 Benjamin Martin, the chair of the department, was very much a mentor for me. He was the one
240 that found me the job at the med school. When I came down to Atlanta and said, "Well you know
241 I need money. I want to go to school but I need money." And he said, "Well are you serious?" He
242 said, "All right well I have a job." His wife ran the medical school library. So he walked me over
243 to the medical school. I had no idea where we were going. The medical school had moved in
244 since I went to Spelman, so I had no idea where we're going. He says, "Okay she wants a job."
245 So she put me to work. And he told me later that he did that to see if I was serious. He said, a lot
246 of people would have said, I don't know, I don't want a job like that. I don't just want to sit
247 behind this desk and just check out books. He said, once he figured I was serious then he got the
248 graduate teaching assistantship, and he was very helpful. But it was a little test to try to see if I
249 was about business.

250

251 **B: Well in this period of time were there other people you were friends with going**
252 **through the program? Did you have support from colleagues, other students?**

253
254 A: I made friends, but in terms of that not so much. It was really hard for me to find time to
255 work with other people. By the time I did the jobs and the kids and the classes, I really, my best
256 help at that point was my mom, who had decided to get interested in computers from a user
257 perspective. And in fact went out and bought an Osborne. Now you may not remember the
258 Osborne, but it was supposed to be portable but it was more like luggable. And it had a little
259 about 5 inch screen. And she went out and bought this ostensibly because she wanted to try to
260 word process on it. But I later figured out that she did it so I could do some of my homework
261 without having to go to the lab. Because we had to program, I could do some of my programs on
262 there, at least the preliminaries. And my database stuff I could do on there. And that was why she
263 went and got it. She was really supportive. She would encourage me when I was getting down.
264 She would tell me, "Pick up that book, you're sleeping on it.", after I helped each child
265 successively with her homework and thought I was going to do mine. So she was really there for
266 me. I couldn't have done it without her.

267
268 **B: Well you finished up your master's thesis.**

269
270 A: And went to work teaching at Spelman full time, only now computer science instead of
271 math. And Spelman was just beginning its full computer science major at that time. Before that
272 there was a joint program among the Atlanta University Center schools.

273
274 **B: The Atlanta University what kind of schools?**

275
276 A: Atlanta University Center, which is Spelman, Morehouse, Clark, Atlanta University,
277 Interdenominational Theological Seminary, the Medical school, and I've missed one – Morris
278 Brown. So the undergraduate schools had a joint computer science major. The first year they
279 stayed at their home institutions. They took intro, Fortran I think it was at that time. And after
280 that they went to the joint program, which met at the library, we have a joint library. But Spelman
281 was finding there was a boom. This is the mid to late 80s, there was sort of a boom in computer
282 science. So the girls were finding it difficult to try to wait in line for their turn at the joint
283 machines. There were cases of the girls being bodily lifted out of the line by the fellows who
284 wanted to get to... Also Spelman felt like they didn't have good control over what kind of
285 education the girls were getting. So it was decided to start our own program. So we were the first
286 of the AU Center schools to get our own 4 year degree.

287
288 So I got to be in on the ground floor of that. I helped write curriculum, I helped do some of the
289 course development. Back when we had the CS1, CS2, CS3, the CS7 courses. And I got to help
290 write syllabi and plan the curriculum. So it was an exciting time to be in computer science.

291
292 **B: And then?**

293
294 A: And then Dr. Falconer showed up again and said, "Well you know you can't stay in
295 college teaching if you don't have your PhD. It's like a driver's license, you've got to go get it."
296 And all these children, and they were getting ready to go to college, too, so I'm like, I don't know
297 how I'm going to do this. So she goes away and leaves me alone. After a while she comes back
298 and says, "I put you in for this fellowship, you need to start applying to schools."

299
300 So sure enough she got me a fellowship, an IBM UNCF fellowship, and I decided to try to find a
301 school. Well I thought about North Carolina because I'm from there, but I couldn't find a

302 program in North Carolina that had graduated a Black person in computer science. I looked. I
303 thought about Georgia Tech, and I was a little dubious about going there. And it was the only
304 PhD program in the state of Georgia. And I applied to, I talked to some people from the
305 University of Tennessee, Knoxville and also Chattanooga, and they were very encouraging. One
306 of them offered me this fellowship. They had a house I could rent for the kids. So I'm thinking
307 about moving. And my girls had a family meeting without me, and they came to me and they
308 said, "Mom we know you want to go get your degree and we're going to support you, we're
309 going to do our work so you can do yours. But we have a condition. You've got to go to Tech,
310 because we're not moving."

311

312 I got in my car, drove over to Tech and applied. And as it turned out that worked out well. It was
313 a bit of a challenge. Georgia Tech was a school that was traditionally male, traditionally white. So
314 I sort of felt like I was too old, the wrong color, the wrong age to be going there. There was
315 nobody that looked like me. Very few women were in the program. And there were maybe 110
316 students and maybe 8 of them were female in the PhD program when I went. And most of them
317 were in their 20s, and I had a college age daughter. So I obviously wasn't in my 20s. And it was
318 kind of difficult in the sense that, you hear people talking about the isolation, how people don't
319 want to form study groups with you. I would end up doing projects by myself because I couldn't
320 get a partner. And there were a couple times when I thought, you know I don't really want to do
321 this, I can go back to high school, I know how to do that. But I stuck it out. I had a friend who
322 encouraged me.

323

324 **B: At Tech?**

325

326 A: No actually. Not that I didn't have some people at Tech who were supportive, I don't
327 want to give the impression that nobody was. The fellow who was in charge of the program at the
328 time I went in was actually in an acting capacity. And I had gone over and taken a couple of
329 courses as a non-degree student. And Tech had a new president, Crecine was becoming president.
330 He gave a speech about how Tech was going to increase diversity and become one of the leading
331 producers of minority engineering graduates. So they called me up, and they said, "What would it
332 take to get you to come full time? We have a fellowship of \$14,000 or something." And I said, "I
333 can't pay a mortgage and feed three children on \$14,000." Even in 1988. But he was very
334 supportive, and stood up for me.

335

336 Some of the professors didn't believe that I could know anything, having gone to Atlanta
337 University which was a Black school. And they wanted me to go back and take courses, they
338 wouldn't let me into their courses; they wanted me to go back and repeat undergraduate level
339 courses and to take things that I just didn't have the time or energy to take again. One of them set
340 me down, he wanted to know the name of the textbook; he wanted to know this and that.

341

342 And the thing about it was, the particular course he was talking about I had taken at Tech, and he
343 still didn't want to accept that I knew enough to go into his course. So this guy, and I really can't
344 remember his name, he's passed away since. But he stood up for me. When the advisor wouldn't
345 sign me up into courses he would override. And he said, "Well let's just see how she does." And I
346 was able to do them. So he was a big help. Peter Freeman became Dean of the College of
347 Computing, and he was very supportive and helpful. My advisor was good in that he helped me
348 figure out how to apply my interests in teaching and education to computer science, and
349 human/computer interaction.

350

351 **B: Who was that?**

352

353 A: Albert Badre. So he was helpful in that. And my officemate, Jeanette Allen, was really a
354 support. Now the first couple years I was over there I didn't know her, but when I went full time I
355 met her, and she had the same advisor and a similar area of interest, and we were able to take
356 courses together. When we did our minor, she was ahead of me in the major courses. So I wasn't
357 in those with her, but we did a minor together. Tech requires you to take 6 courses from another
358 discipline as a minor. So we made up a minor, we built a minor, with psychology, industrial
359 engineering, and statistics kinds of courses. An experimental kind of minor. So we took
360 psychology courses and statistics. And it was so funny because she really wasn't very good at
361 math. So we're taking these statistics courses, and advanced statistics courses, 6000 level
362 statistics courses. And the guy refers to something, and both of us look completely blank. We're
363 like deer in the headlights. And he stops and says, "Well you know about such and such don't
364 you?" And we said no. And he asked something else and finally he says to Jeanette, "Well you've
365 heard of calculus haven't you?"

366
367 So we go to his office afterwards, and we say you know, should we drop, should we go back and
368 take a prerequisite course? And he kind of looks at us and shakes his head and goes, "You've
369 made it this far, you might as well finish." But he did give us an extra book to go through, and we
370 made it through. And it was so funny because we took another course from him. A course that's
371 known over there as "Design of Messy Data". But we did a project in that course for him that led
372 to a journal publication. So he was very supportive even though he was outside our discipline,
373 and even though we thought he was going to have to go and take blood pressure medication after
374 dealing with us.

375

376 **B: Did you get into research for your degree and did you enjoy research?**

377

378 A: I did. I really enjoyed it. I, I've said I was in human/computer interaction, so I did
379 experiments on using animated algorithms to teach computer science. So I had to develop
380 animations, develop tests on the animations. And I was able to use some of the students at
381 Georgia State, some of the students at Georgia Tech for my subjects. Georgia Tech has this nice
382 thing where psychology students have to be in experiments. So you don't have to try to bribe
383 them to be in your experiment, because they need an experimental credit. So it made it easier to
384 get them to come in and try my animations. And it took me a while to kind of get to that. At first I
385 thought I wanted to write an intelligent tutoring system. And one of my committee members,
386 John Stasko, was doing animations. And he said he would be really interested to see if they really
387 helped. And everybody said, ooh, ahh when they saw them, but he wasn't sure if they would
388 really help.

389

390 So I took that as my project, and it was very interesting. I got to figure out all the nuances of what
391 do you do to animations? Is it the color that matters, is it how fast they move, is it how you
392 represent the data? And what I really found out was that it's involvement. If the student isn't
393 involved it's just like watching a cartoon or something, it doesn't really go in. If they don't do
394 something, if they don't put in the data, if they don't manipulate it some kind of way, it doesn't
395 seem to stick. So that was fun, and I had some great people on my committee, and they were
396 really helpful. So I was very lucky that way. They were very good. One of the guys read
397 everything. If I couldn't find my advisor he would take those chapters, when the drafts got to be
398 100 pages of dissertation, he would still take it home over the weekend and read it and bring it
399 back with suggestions. So that was great I was able to get that kind of support.

400

401 **B: So you finished your PhD?**

402

403 A: I did, with Dr. Falconer pushing me every step of the way.

404

405 **B: There she is again.**

406

407 A: She was, she was right there. And I went back to Spelman.

408

409 **B: So were you on a leave when you were going full time?**

410

411 A: I was on leave for 3 years. The first two years I had the IBM fellowship, and the third
412 year I had some other funding, so I was able to stay. But at the end of the third year they told me I
413 had to be back in a classroom or give up my job. Well I couldn't afford to give up my job because
414 I had a child going to school on the free tuition for employees. So I knew I had to go back in the
415 classroom, and I wasn't quite finished. So the fourth year I was going to school full time and
416 teaching. And Dr. Martin by now had left Atlanta University and was at Spelman. So he was my
417 chair. He was very helpful in helping me develop a schedule that would let me do that, a teaching
418 schedule that would let me have full days at Tech. And I found out one thing that was sort of a
419 trick that I had, if my advisor didn't see me he didn't think I was working. So I was there all day
420 Tuesday, Thursday, and Saturday. So what I found out I had to do was along about Wednesday I
421 would leave work, ride over to Tech, put my coat in the office, go back, let my advisor see me
422 wandering back and forth carrying something, speak to him, and go home. And after that
423 happened he said, "Glad to see you are really working now." Okay.

424

425 **B: Bring your coat.**

426

427 A: But I had to put the coat off first because it had to look like I was there. So it was
428 interesting how that half an hour really made a difference to him, because he felt like he was
429 seeing me every day. But that was a bad year. I was glad to get to the end of that year. But it all
430 worked out. I got the degree, went back to teaching full time, and I really have enjoyed my time
431 at Spelman, it's been great. I've been chair for a good part of the time. And in that sense have
432 gotten to shape the curriculum, shape the department, and that's been very satisfying.

433

434 **B: Can you share with us your teaching philosophy, and has it changed over the years?**

435

436 A: That's a hard one. I think my teaching philosophy basically is to try to help the students
437 find out how to learn. So what I really am about trying to do is showing them enough so they can
438 go from there later, when they don't have me. And I think the other piece of my philosophy is
439 that I should make an effort for them to understand me. That is if I were to give a test and
440 everybody was unable to do something, or even a majority, I would think that was my fault.
441 Because if the good students can't get it, then I'm not putting it across. So I always measure my
442 success as a teacher by their success as students. And I don't think that's changed much. I think
443 I've always been inclined to think that the measure of a good teacher is whether the students are
444 really learning.

445

446

447 **B: What courses have been your favorites to teach and why were they your favorites?**

448

449 A: I really like to teach intro programming. And I like programming languages, and I like
450 human/computer interaction. But my favorite is intro programming because it's such a joy to see
451 when they get that sense of mastery that "I can do it." To go from that basic Hello World to a
452 complicated combination. And they come in and say, "It works it works." That makes me really
453 feel good, so I like that course.

454

455 **B: Do you have a particular story to relate about any particular student or classes?**

456

457 A: Oh I think one of the things I've had about is that many of my students have almost
458 become like daughters. And they've consulted me and come in and asked for my advice. But one
459 of my favorite students, who actually went to MIT from Spelman, came in to me one day and she
460 said, "Oh I just don't know. I've been working and working on this project," she was doing
461 independent study with me, "and it's just not working and this and that." So I was trying write her
462 a reference and I said, "Well I'm writing down about how you've done all this research." She
463 said, "Well I haven't done any research, it doesn't work." So we had to have a long talk about
464 what research really was. Research was finding out that no, this doesn't work, and why. I've
465 been very close to several of my students. I get invited to weddings; I get baby pictures in the
466 mail. The funniest one was though when I had to teach my niece. Actually my ex husband's niece
467 I should say. But that doesn't matter at that point, by that time she was my niece.

468

469 So she came to Spelman, and it's a small department, I had to teach her. Everybody has to teach
470 everybody. And it's very funny because her dad is a college teacher in math. And other
471 mathematicians know him. So they would do stuff like call me up and say, "Well you know I
472 have a student who's not doing such and such." They wouldn't call any names, but I knew they
473 were talking about her. And then at one time she was in my class and we had a difficult
474 interaction., I said, "Come on we're going in my office." We had a long talk. I said, "Look. I may
475 be your aunt and I may love you dearly. But you're about to earn a D. And I'm going to give it to
476 you. I'm going to be very sad to give it to you, and I'm going to call your mom and dad up and
477 explain why you got it, but you're going to get it." So she left my office, after she wept on me.
478 And you know that girl didn't turn anything in below a 95 for the rest of the semester. And I said,
479 "You could have done that all along."

480

481 But she left Spelman, went to Auburn, and she had a 4.0 for her master's. And she graduated
482 from Auburn. And I said, "Now you could have done that at Spelman." But she now has a PhD in
483 computer science. So she's one of my success stories.

484

485 **B: We're going to shift gears a bit and talk about professional organizations. What**
486 **kind of professional organizations do you belong to, computing or research or computing**
487 **education, what kind of organizations?**

488

489 A: Well I've been very active, not active in a sense of committees but SIGCSE, I go to the
490 conference every year and keep very interested in what goes on there. I also have stayed part of
491 the Mathematical Association of America, because when I was teaching math at Spelman they
492 gave me a membership. And I kept that up; I still go to workshops and conferences in math. Math
493 is such a foundation to computer science that I kept that interest. And I'm also the outgoing
494 president of a minority computer science organization called ADMI, which has a very unwieldy
495 title. Association of Departments of Computer Science and Computer Engineering in Minority
496 Institutions. That's why we abbreviate it. But this organization is designed to help deal with some
497 of the problems we have with some of our minority institutions. We have Hispanic, Native
498 American, and HBCUs as members, mostly HBCUs. We have an annual symposium where
499 students present research and are exposed to opportunities and research and careers and grad
500 school. And I have a student who attended one of those graduate school sessions who has since
501 credited me publicly with being the one who inspired him to go on and get his PhD. And he said
502 he had never seen a black person with a PhD in computer science from the beginning of college
503 through his master's program until he met me at the ADMI Symposium.

504

505 He was finishing his master's. He was thinking about a PhD and thinking about, no I don't want
506 to do this, this isn't for me. And he came to our workshop and decided well yes he would stay and
507 finish school. And he's now a faculty member at Auburn University, Juan Gilbert is his name. He
508 writes a column for IEEE, and he's an IEEE Fellow. So I'm thinking okay, and then I had my
509 niece who went through the ADMI organization presenting and some other students who went on
510 to obtain PhD.s. So we're thinking that this encouragement is showing them that this is what you
511 can do is very important. Even from a small school, from a minority serving institution you can
512 use as a springboard to great things is a very important thing our organization can do.

513

514 **B: Have these professional organizations affected your career?**

515

516 A: You know actually speaking, I don't know that they really have affected, except that
517 they've kept me engaged and excited about my profession. When I go to SIGCSE and find out
518 new things people are doing, when I interact with my colleagues and when I work at ADMI and
519 see the students succeed, I think that brings me back, refreshed, renewed, with new ideas, and
520 keeps me from falling into a rut and having things become stale. So in that sense yes they really
521 have.

522

523 **B: This is sort of another tack in the same thing, but what role has supervising**

524 **undergraduate students played in your career?**

525

526 A: Well, Spelman is a small undergraduate liberal arts college. And you often would think
527 there's no research. But in fact one of the things we have done in our sciences is to stretch the
528 idea of undergraduate research, that we want - for instance in computer science at least half of the
529 students should do some undergraduate research before they graduate. We hope for $\frac{2}{3}$, but at least
530 half. That's one of our objectives. So every year just about I've had one or two or three students
531 doing some kind of project. And we take them all over the place to present. They've been to
532 NCUR; they've been to the ACM Regionals; they've been to other national organizations,
533 conferences, as well as things like ADMI.

534

535 And I think that really keeps me interested in new things. For instance, I had two students who
536 wanted to know about bioinformatics. Well I didn't know any more about bioinformatics than
537 they did. So we got three textbooks and found a faculty member who did know something about
538 it, and we got to work. And it was really very interesting. We learned about how string matching
539 algorithms, that we had learned in the algorithms course, could be used on databases to find out
540 about gene similarities. So it's something I never would have done if they hadn't wanted to do it.
541 So I think keeping on working with students keeps me exploring new ideas, looking into new
542 things. My latest is I'm learning about ice sheets in Antarctica.. We're going to be analyzing data
543 from the sensors that measure the thickness of the ice in Antarctica. Now I don't know if I'm
544 going to get to go to Antarctica on the field trip. Some of the scientists in the project are going to
545 go. I'm not sure I'm going. In fact my daughter expressly forbade me to go.

546

547 I'm really excited about this. It's a whole new realm of study. And my idea is to apply what I
548 know about HCI and make the data more meaningful. So I have one student who is a biology
549 major, I have a math major, and two computer science majors. And the biology students wants to
550 work on how if the ice really is melting, this may affect the biosphere. The mathematics major is
551 interested in analyzing the data. The computer science major is also looking at how we're going
552 to do algorithms to analyze the data. So that's my latest project and I never would have thought of
553 it. So I guess having undergraduates around keep you thinking.

554

555 **B: Well have you spent time volunteering your professional service, and has this**
556 **affected your career?**

557

558 A: I guess I do spend a good bit of time. I do things, I go to high schools and what not and
559 speak and do career presentations. I've worked on conferences, I read reviews. I do the standard -
560 I read proposals, for NSF and NASA. So I guess I do spend a good bit of time doing that. I think
561 that's been really good in the sense that it has kept me connected with different ways different
562 people are doing things. You know you can be in your school and your things are going fine, and
563 you don't look out. I think being involved with other organizations and groups has helped me
564 keep a fresh eye on what I'm doing back at Spelman. So in that sense, yes it has.

565

566 **B: I think you've answered this, that you've found ways to serve as a mentor. You keep**
567 **in touch with people. Do you have any particular mentoring stories you'd like to...?**

568

569 A: Well I did kind of answer it because I told you about Juan, and my niece. But I guess that
570 I really am pleased that often students will come back to me years later, and they will say well the
571 fact that I was willing to sit down and talk to them about whatever it was, whether it was school-
572 related or whether it was personal, was important to them. And I will get emails back saying, "I
573 finally went to grad school like you told me to." Six years ago, or four years ago. So I think I'm
574 doing a good bit in that role, serving as mentor to my students as they go through.

575

576 **B: And you have mentioned this, that there have been challenges in your life. Are there**
577 **any particular challenges that you didn't mention that you would like to mention?**

578

579 A: Well the one I think, and maybe I would mention it, is that I did something that maybe
580 other people can do to help them. When I was at Tech, I think I mentioned I felt a little bit out of
581 place. And one of the things that Tech did was they had a support group for the woman students,
582 the woman graduate students. And I used to go to that sometimes, and that was really good
583 because it helped me to see that other people were having, not the same issues, similar kinds of
584 issues. Like the mechanical engineering PhD student who had her bachelor's and master's from
585 Tech, and had worked in industry and come back. And her fellow teaching assistant offered to
586 show her how to compute an average, because he thought she was going to have trouble. This is a
587 woman with a master's from Tech, an engineering master's. So it made me see what women went
588 through but not in the same way. It wasn't just the computer science department, it was sort of a
589 feeling of the sciences and engineering school, and it wasn't personal. And sometimes when you
590 know things aren't personal it's easier for you to handle.

591

592 And what I gain from that is that if you're in that kind of situation you should seek a support
593 system, whether or not it's at school. When my daughter went to MIT she had some similar
594 issues. And she actually found a church home and then revived the Black Graduate Student
595 Organization, because I told her I had helped in establishing one at Tech when I was there. She
596 advised on one at MIT and became president, and found that as a support system. So I think that
597 what I found out with the challenges is don't sit there and suffer by yourself. Reach out for
598 whatever support, whether it's friends, whether it's family, whether it's a group, whether it's a
599 church, whether it's an organization. Get involved.

600

601 **B: Were there any compromises that you had to make going through your career?**

602

603 A: Well, I guess in a sense I made a lot of my compromises before I got in the career, when I
604 did things like not go to graduate school because my ex was ready to move to another city, and
605 not go to work full time right away because he didn't really want me to work. After that it was

606 more a priority balancing kind of compromise. You know maybe I have to give up one thing
607 because of another...I guess what I did do, I was divorced and moved back to Georgia, didn't do
608 much dating or anything like that. Because between the children and the jobs and the school,
609 there didn't seem to be any time. So I guess that's one compromise I made. I had to choose what
610 was important and what I had time to do.

611

612 **B: Do you have any other outside interests that would help us understand you any**
613 **better?**

614

615 A: Well I guess, there are two things, three things, four things I spend time. So I do have
616 things I do. I love to read. And I read omnivorously: romances, science fiction, mystery, popular
617 novels, nonfiction. If it's between covers I'll probably try it. I may not finish it, but I'll probably
618 try it.

619

620 I like quilting. And that's something I used to do back when I was being a full time homemaker,
621 and then I picked back up lately. And I belong to a quilting group that we have an annual show.
622 People come in to see our work. So that's kind of fun.

623

624 I love to travel. And those who know me know they may find me anywhere. And I've combined
625 my interest in computer science with that. So I'll go to conferences, but I also enjoy where I go. I
626 always take an afternoon or a day, just explore the city, if it's just a couple of hours. So I learn a
627 new place while I'm doing it.

628

629 And I have my grandchildren.

630

631 **B: I was going to say, aren't you going to talk about that other interest?**

632

633 A: I have my grandchildren. And they take up a lot of my time. I have two granddaughters,
634 they're 6 and 11. Alexandra and Avery. And they keep me very busy. The older one Alexandra is
635 firmly trying to manage me now. She'll explain to me how, Nana you were gone too long the last
636 time. It's okay if you're gone for this long, but if you're going to be gone for longer than that I
637 need to know. So she'll explain it to me very carefully. My daughter works at night and she's at
638 school now. So they spend several nights a week at my house. So I'm doing my second round of,
639 Did you lay out your uniform? Where are your socks? Did you finish your homework? Put your
640 book back in the car. And sometimes it wears me out, but I think it keeps me young, too. So I
641 really enjoy them, too. They're a lot of fun. And I'm instructed that I'm not to leave Spelman
642 until my older granddaughter gets there. So I see that I'm not going to be able to retire this year.

643

644 **B: Well we're about to wrap up, and couple questions here, but if you could give advice**
645 **to a young woman starting out, what would it be?**

646

647 A: If I could give advice, I would advise that you not limit your choices, that you consider
648 all kinds of possibilities. And if something gets hard that you look around to see how can you
649 succeed. Don't just give up, but look around and see what do you need to do differently so you
650 can succeed. And I would advise them to pick something they like to do. If you're going to be
651 doing something all day long for 30 or 40 years, you want to enjoy it. So not by prestige, not by
652 pay, but by what you can enjoy and get pleasure from doing.

653

654 **B: If you could change one decision you made along your career path, what would it**
655 **be?**

656

657 A: If I could change one decision, I think I would have chosen to be more actively involved
658 in research, immediately after my PhD. I didn't realize at the time that if you let your research
659 kind of lapse it was hard to get back into it. So when I came back into it I've never been able to
660 get back to the depth that I would have liked to get to. I've been able to do some things, had some
661 publications, but I haven't been able to do as much as I would have done if I had known that it
662 was important to keep publishing, to keep working.

663

664 **B: And if there's one story you want to tell so that it would be remembered, do you**
665 **have that one story?**

666

667 A: Do I have one story? I think I do have one story. And that one story is that when I got
668 ready to go back to graduate school, I wasn't sure if I could do it. It had been a long time since I
669 had done serious science and serious mathematics. And I talked to some people, and one in
670 particular was very encouraging. They said, well I think you could do it. My family was
671 supportive, my mom was supportive. And I think that my dad was very supportive. He helped me
672 out financially when I couldn't do it. And I think the story I would tell is that there're ways to do
673 things. You just, just have to keep looking around to find the ways to do it. And that you don't
674 know what your path is going to be. I never thought when I said I was going to go get my
675 master's at Atlanta University, that I was going to end up getting a PhD and trying to inspire
676 other people to go get a PhD. But there's opportunities out there if you just keep your eyes open,
677 so I think that's my story, just keep them open.

678

679 **B: Good well, thank you Andrea, this has been fun for me and I'm really happy you**
680 **decided to spend this time giving your story.**

681

682 A: I was happy to do it.