

PART 1: Personal Background and Academic Experience

NARRATOR: This interview is part of the University of Pennsylvania Faculty Governance Oral History Project. Today is August 1, 2005, and I will be interviewing Professor Gerald Porter, of Penn's Mathematics Department, in room T-215 in Biddle Law Library. Professor Porter has been at Penn since 1965. He has been very active with the Faculty Senate. During this interview we will explore Professor Porter's experience with the university governance at Penn since the mid-1960s.

Basically, the interview is going to have two portions. One portion is going to be biographical – we're going to talk a little bit about your – especially your academic background and your history – and then portions about university governance at Penn. So those are really the two components of the interview. So could you tell us where you were born?

PORTER: I was born in Elizabeth, New Jersey. I grew up in Rahway, New Jersey, but the hospital happened to be in Elizabeth where I was born.

INT: And, what did your parents do?

PORTER: My father was in the wholesale grocery business. It was, I guess, a middle class business. He was taken out of school after sixth grade, when his father told him it was time to go to work. My maternal grandparents also had some kind of business in Rahway, New Jersey. My maternal grandfather died ten years before I was born about the time my mother was graduating high school. My mother came from a family in which there were three girls and one boy. The girls went to work and the boy went to college. He was very successful, but still it was really a sacrifice, because they were a poor family.

INT: Did you have any other brothers and sisters?

PORTER: I have a younger brother who is four years younger than I am.

INT: Can you tell me: what does he do?

PORTER: He's an attorney in Princeton, New Jersey.

INT: Oh, okay. Could you say a little bit about what your childhood was like growing up?

PORTER: I thought about that. I really don't have very much to say about my childhood. It was uneventful. My father had a business, I helped him – you know, all of us helped in the business, doing – sort of menial tasks. We were never wealthy enough to take vacations of any sort. Maybe we would go someplace and visit a relative for a short period of time, but it really wasn't what one would think of as a privileged upbringing. On the other hand, I don't think we thought of ourselves as poor. In fact, I think both of my parents thought that sending their sons to college was really a wonderful thing that they were able to do, and that was probably the highlight of their lives.

INT: Did you, as a young person, think about an academic career? Was there anything in your – in your childhood or your adolescence which made you look towards an academic career?

PORTER: I don't think that I really did. I thought about going to college, of course, and doing something or other, but I didn't really think about an academic career. My mother's brother, who was the successful one, was an academic.

INT: Okay. And what did he teach?

PORTER: He taught economics.

INT: Okay. Okay. And – so then you decided to attend college at Princeton?

PORTER: That's correct.

INT: Could you say a little bit about how you selected Princeton?

PORTER: I was in Rahway High School, which was a working-class high school. I applied to a half a dozen different schools: Princeton, MIT, Lehigh, Rutgers, Oberlin – a wide variety of schools. I think probably I would have gone to MIT, except MIT didn't give me any financial aid. Princeton gave me \$500 a year financial aid, which we think about today as not very much money, but that was 50 percent of tuition during my freshman year in Princeton. That was significant for my parents. I don't think my father ever made more than ten or eleven thousand dollars in a year.

INT: And what was your major?

PORTER: My major was mathematics.

INT: And how did you settle on mathematics?

PORTER: Well, I took a wide variety of things. I looked at economics, I took some other courses as well, I experimented, and mathematics seemed to be the one that I was most successful at. Princeton was a very hard school at that time. Princeton was classist, sexist, and anti-Semitic. My class at Princeton was the the last class that was primarily prep school, private school students. I don't know whether it was the last, or the first that wasn't, but it was something like that. And it was a difficult place. My high school was not a very good high school. It was a difficult academic adjustment. I worked very hard, and I didn't fail out, but my grades were not great. I keep a copy of my Princeton transcript in my office drawer. When students come around complaining

about their grades, I show them my transcript and say “well these weren’t so wonderful, and somehow I managed to survive.” <LAUGHS>

INT: And what about other extracurricular activities while you were at Princeton?

PORTER: I was – for awhile, on the business staff of the radio station. I had a part-time job. The part-time job was as a mover. Moving refrigerators and pianos and those sorts of things. But by the time I had been a junior, I was head of a group of people who ran the Institute for Advanced Study Von Neumann computer. I would hire people, we would go out there every night and run the night shift on that computer while it was running. That was a pretty interesting job. I wrote my senior thesis at Princeton on that computer, and I had to rush, in March or April of that year, they were taking it apart to ship to the Smithsonian. At one time, I went down to the Smithsonian and I saw the desk that I used to sit at. That was a pretty weird feeling.

INT: Wow, that must have been amazing. And then you went to graduate school at Cornell?

PORTER: That’s correct.

INT: Did you –

PORTER: I was undecided at that time between math and computing. If I had been born say five or ten years later, I might have been a computer scientist and not a mathematician, but there was no such thing as computer science at that time, and the only thing that there was that you could be an applied mathematician, and solve other people’s problems. And – so I applied to graduate school both in pure mathematics and in applied mathematics, and I was accepted at NYU, and I don’t think I was accepted at

MIT that time round. -- <CHUCKLES> -- I had a professor who had formerly taught at Cornell, who wrote me a nice recommendation, and I wound up at Cornell, which is probably the best place that I could have gone at that time.

INT: And, at this point you were thinking of an academic career, is that correct ?

PORTER: I'm not sure that I was thinking very much of what I was going to do. This was 1958, and if I remember correctly, around 1958, we were in an economic recession, and there weren't a lot of jobs around and certainly one of the things I thought about was perhaps teaching, but I thought I might use it in other ways. While I was at graduate school, I got interested in algebraic topology, and that was what my thesis was in, and surely, at that time, that there was no other use for algebraic topology, other than to become a professor, so I followed that line of – whatever.

INT: That career path.

PORTER: That career path.

INT: And then, so after you graduated with your Ph.D. you went to MIT?

PORTER: Well, that's what I said. First time they accepted me, and I didn't accept them, and the second time, I would have accepted them, but they didn't accept me, so finally, I got my degree, they accepted me, and it was a wonderful place for doing topology; there was a wonderful group of topologists there, and it really was perhaps the most active research time in my life, those two years that I was at MIT.

INT: And then you – you went to Brandeis after that?

PORTER: I was married after my second year in graduate school and my wife transferred from Vassar to Cornell. When I got my degree, she had stayed around

Cornell an extra year and picked up a masters degree and she was accepted at Harvard. That was another good thing about MIT, was that both of our career paths could merge in Cambridge. So she went to Harvard as a graduate student. She had finished two years plus the year she had been at Cornell, and she needed another year to finish her degree at Harvard. I applied for an Office of Naval Research Fellowship, which I got, and I could take that at Brandeis, so she finished her degree that year, and I spent the year at Brandeis.

INT: And then, in '65 you ended up coming to Penn. Do you want to say what it was –

PORTER: Well it was actually – '65, I actually accepted the position at Penn, and in '65-'66 I was at Brandeis –

INT: okay –

PORTER: And – so we thought about various places. I also had a job offer at the University of Washington in Seattle. Surprisingly, in 1965, the University of Washington in Seattle still had nepotism rules, and it was clear that if we both went to get jobs there that it would be an impossibility. There were a wide variety of schools in the Philadelphia area, and so Philadelphia became a very attractive place to be, as well as having a very fine math department at Penn that was in the process of building at that time. There was a cataclysmic change in the math department at Penn in the early 1960s, and that was changing from a very classical version of mathematics to contemporary mathematics. My field, was algebraic topology which was contemporary mathematics.

INT: So you were very uniquely situated then to come in –

PORTER: So that was a very good place to come, yes.

INT: And, what classes did you teach when you first came here?

PORTER: I think I taught the graduate course in algebraic topology and I taught calculus. I think I've been teaching calculus for 39 years now. I've taught other courses as well. In 1990 I developed a computer-assisted linear algebra course and I've been teaching that course for probably the past ten years. In 1968, Herb Wilf, who is a colleague of mine, and I designed and ran the first computer calculus course, which was an early adoption at that time. It was a very different environment than today's environment, when all the students have computers.

We used to have a mainframe computer at Penn, over on 34th and Market, and punchcards. (INT: "Yes.") Students would punch their programs on punch cards, and a truck came every night and trucked the stuff away to 34th and Market. It would come back the next day, and if they had made a silly little mistake, the program didn't run. So it was a lot harder to teach those courses in those days.

INT: What changes have you seen at Penn, just say in terms of the students? Over – since the mid-'60s, the late '60s –

PORTER: Students are a lot better now, and I attribute that primarily to Lee Stetson, and to the process of the early action. It used to be, years and years ago, that the students we got at Penn would spend their first year complaining about the fact that they weren't at Princeton, Harvard or Yale. They really felt that somehow they were at a second-rate place. Now, the students we get, for the most part, have applied here early action, they want to be here, and there's none of that griping anymore. And I think – I think Lee has been made a fantastic change in Penn, and that that early action, which

some other schools criticize us for, has really helped Penn a great deal. The students that came into the Wharton School, for example, in the late 1960s-early 1970s, were – were basically not very good students, and teaching a Wharton calculus course was a difficult thing. That's not to say that they all weren't good, and probably the top third were as good as anybody else, but the bottom two-thirds were not.

INT: Mmm-hmmm.

PORTER: And – and I don't think you have that anymore. Now, you have -- some of the best students that we have are Wharton students.

INT: What about the changes in the colleagues – in your colleagues here, that you see?

PORTER: I think they're basically the same people <LAUGHS>. I mean, there's not a very rapid turnover of colleagues. Some leave, some unfortunately die, others come. But I think the Penn math department in any case has always been a very collegial department, it's always been a friendly department, and we've supported each other over the years. At time to time, there are little squabbles over this or that, but there's not a lot of that. I mean, you hear the talk at other places, and other situations of turf wars and so forth. You don't really see that a lot – at least in my department, you don't see that. Perhaps other places in the university.

INT: What was the size of the department, in terms of numbers, when you first came?

PORTER: I bet it was probably on the order of maybe 20-22 tenure, tenure-line positions, and today I don't know what it is, it's probably no more than 30-32. We've expanded a little bit. As astronomy was disbanded, we moved down the hall a

little, or such, but we haven't grown a great deal as far as – well, I guess I said, well even 50 percent may be good. A comparable department in a school with a comparable number of students, a Michigan or a Wisconsin, would be two to three times the size of our department.

INT: And what about the teaching methodologies. Other – I mean, you've mentioned briefly about the computers. Obviously, the change in technology would have an impact on teaching and mathematics, but what about other sorts of methodologies?

PORTER: There are some people that are teaching today the same way they were taught thirty years ago. Other people change. I've served for eighteen years as an officer of the Mathematical Association of America. The Mathematical Association of America is the premier collegiate mathematics group. That's opposed to the American Mathematical Society, which is the premier research group. As such, I've been exposed to the various discussions there on different types of interactive teaching. We ran a project– for them, for five years, on creating computer texts – what we called “interactive mathematics text” that – is a book that I talked about that I and Dave Hill at Temple created such a text.

I ran that project for five years, and it exposed me to a wider type of methodology. And there's also have been changes in the content and the teaching of calculus over time. There was a major National Science Foundation funded project on the teaching of calculus. Those things have had some change, but minimal change here at Penn, because, to be sure, the major rewards at the University of Pennsylvania are for research, they're not for teaching. It is expected that teaching will be adequate

and more than adequate, but those are not the major areas that you get your rewards for.