

INTERVIEWER: Today is May 13, 2010. We're talking this afternoon with Steven R. Lerman, a professor of civil and environmental engineering and the vice chancellor and dean for graduate education at MIT.

He graduated from MIT in 1972 and stayed on first to earn a Master's degree and doctorate, and then to serve as a faculty member. He has worn many different hats. He was chair of the faculty not once, but twice. He was the first director of MIT's Project Athena, a student computing system created in 1983 to explore how computing technology could be used to enhance education. He has been deeply involved with MIT's OpenCourseWare and directs the Center for Educational Computing Initiatives. He recently coordinated the work of a task force for Institute-wide planning and is acting MIT co-director of the Singapore-MIT Alliance.

Nor does he stray very far from MIT after work. He and his wife Lori have been housemasters in The Warehouse, one of MIT's graduate residence halls, since it opened almost a decade ago, and they are known for their monthly pancake brunches. But that will all end soon. Although Steve has called himself a lifer at MIT, he will become provost and executive vice president at George Washington University in July.

Steve, congratulations on your new post, and thank you for talking with us. We're happy to catch you before you walk out the door. When you entered MIT as a freshman in 1969, did you have any expectations that you would stay so long?

LERMAN: No, of course not. I mean 1969, first of all placing it in context, was not a year known for people doing a long-term planning. It was the height of the Vietnam War era. It was a year of tremendous change in the United States and universities and university cultures. Planning horizons were more like in months and weeks rather than years and decades. So no, there was no long-term plan at all, frankly.

I did have some interest, although certainly not an exclusive one, in academia, but even that was a vague notion or certainly nothing resembling a plan. And when I came as a freshman, most of my goal was simply to get adapted to MIT, and figure out who I was and what I was going to be doing for the next, well turned out three years, then six years while in graduate school. And then, of course, 40 years.

INTERVIEWER: Did you fall in love with the Institute when you were an undergraduate or have any conscious sense that this was a place that you wanted to remain at?

LERMAN: I loved the place when I got here, particularly after the middle of my freshman year. I think that for me, the big turning point for being here at MIT and really what I felt most comfortable, was I started doing a UROP at MIT. Up until then, of course, I was doing a lot of course work, which I loved and enjoyed. But the special nature of the place I think only became clear to me and feeling at home within a small piece of it was when I started doing a UROP in the civil engineering program-- now we call it civil environmental engineering. And that's a UROP I did throughout my undergraduate years, and ultimately my own career interests moved over to civil engineering.

I had not come it was any attention at all of being a civil environmental engineer. I probably couldn't have told you coherently what a civil environmental engineer does. I came in physics major. It didn't last that long, but I thought I was going to be in astrophysics.

INTERVIEWER: What moved you away from physics and how did you discover the civil and environmental engineering?

LERMAN: Well, what moved me away from physics? I think many high school students have a less clear understanding of modern physics. And when they think of their interest in physics, it's part because they may have never been exposed to engineering. What they're really interested is how things work. And certainly basic mechanics begins to give you a coherent intellectual framework for understanding the fundamental things that make things work: force, mass, inertia.

But you think you're interested in physics, but in fact for many students-- not all, of course. There are people who come and want to be physicists --that's what's fascinating to them. It's just high schools provide absolutely no experience in how to translate those ideas into what we now think of as engineering. Making stuff that's practical, applied to human needs.

I think as I began to understand that my real interests were around how do you apply science, mathematics, technology to meet human needs. I became much more interested in civil engineering. And I think for me the vehicle for that was predominately my freshman advising seminar.

[INTERPOSING VOICES]

INTERVIEWER: What subject?

LERMAN: It was on basically engineering systems. It was co-taught by someone who is still on our faculty, Richard de Neufville, and someone by the name of professor Joseph Stafford, who left MIT later. They co-taught it, and I was their freshman advisee. They co-advised a cohort of maybe eight or 10 freshman. And that whole six unit experience actually was what got me interested in the idea that one could think about both physical systems and social systems coherently to make good judgments and decisions about things like public infrastructure.

So one of the case studies was the New York City water system, which was a fascinating case study at the time. Incredibly interesting civil engineering project, fantastic water supply system. But at that time we did look at alternatives for how you could do maintenance on it more effectively, and whether it needed an extra tunnel so that you could shut down some of the existing ones.

Well, that simple insight that one could analyze the economics of that, and the physical infrastructure using a set of, at that point very simple mathematical tools because we were freshmen, after all. Fascinated me. And that's where I made a commitment, very early on. Probably well before the middle of my freshman year, that I was not going to be physics major, that I was going to major in, what later I ended up specializing in, which was transportation engineering.

INTERVIEWER: Did you take things apart to figure out how they worked when you were growing up? Was this part of your childhood?

LERMAN: Yeah. My father was a tool and die maker who ultimately owned a small tool and die making company. And this is a field that which making things matters. And my brothers-- I have two older brothers and I. I was the youngest. Taking stuff apart, making stuff was important. We did a lot of it. And having access to a complete metal machine shop, my father's work, was also something that we were not just taking stuff apart, but making stuff was very much part of it.

My father was an inveterate person who made stuff all the time. My brothers and I and he were all ham radio operators-- very common for MIT students, by the way, of that era --and decided we needed a radio tower in our backyard. It was a suburban--

[INTERPOSING VOICES]

INTERVIEWER: Elmont, New York?

LERMAN: It was Elmont, New York. This is a dense suburban. This is you know, 40 by 100 lots. We're not talking about you know, multi-acre lots of which putting up a radio tower in your backyard barely would get noticed. And of course, this was a time when zoning was sort of a little less rigid, because I doubt if most places would approve it now. So my father you know, basically got out arc welding equipment and welded what must have been a 60 foot tower into our backyard. Mounted in concrete and near the house and we used that back to mount the antenna on.

INTERVIEWER: And then the neighbors didn't complain and take you to the zoning board?

LERMAN: No, that was a different era. This was probably you know circa 1960-ish. And you know it was painted with lead paint at the time, right? Because everyone used lead paint. It was a great substance, right? Except for the lead, which we found out later. And it was a radio tower we put up, mounted an antenna, and you know built-- actually out of kits, mostly-- ham radio equipment. So that was part of the household culture for us to do things like that.

INTERVIEWER: What do you think has kept you at MIT all these years?

LERMAN: Well, I thought about that as you mentioned earlier. And one becomes much more introspective when you're leaving. You know, it's a moment for reflection. So in leaving, you sort of ask yourself exactly that question: what kept you here?

I think for me it's two things. First of all, I love the culture here. This notion of a whole community of very smart people. Highly motivated, intense in their passion for discovery and learning. It's always been a place I felt very comfortable in, and being able to work with the people here has been exciting. And then the second thing is more career-related, which is it's given me the opportunity to do different things. I don't think-- I've been 35 years on the faculty now --I don't think if I were doing the same thing every one of those 35 years with minor variations I would've been interested in staying. I would have found that just too long. But it's given me opportunities, as you noted, to be chair of the faculty, which was fantastic experience unto itself. I've been a dean, I've been the vice chancellor, I've been a center director, I've been a major project director through Project Athena.

And that variety of experiences, I think, has kept me engaged here in ways that just doing the same thing-- as much as I love teaching, as much as I love research --doing that as a portfolio year after year after year probably would not have kept me here.

INTERVIEWER: What about MIT has changed the most since you arrived and what's still the same?

LERMAN: Well of course, the place is very different in some dimensions and actually oddly similar. The most obvious, of course, is the demographic of our students and faculty. We are far more international. We are far more gender balanced. We are form ethnically and racially diverse. And that's incredibly helpful to the Institute. I like to go, why is it that our median SAT scores have gone up over the last two to three decades? Well you know, in some ways the answer isn't that complicated; we doubled the pool we can draw from.

From a time when we were a few percent women to a time when the undergraduate body is about 45 percent, 46 percent women, if you double the pool you're going to get better people on average. When you get the best of the best of a pool that's now twice the size-- plus, of course, normal population growth --you're going to have better students. So I think it's enabled us. And that plus the greater access to under-represented minority students who for complicated reasons going into even the 1950s, 1960s were not coming to places like MIT. Now having about almost a quarter of our undergraduate students represented from under-represented and minority populations has also increased the pool. So our students are better simply because we have more to draw upon.

I think the culture of the place has not shifted nearly as much. It is still a culture of course centered in science and technology with excellence in other fields. Management, economics, political science, linguistics, couple other fields. But it's core and center still rests on it engineering and science. About 2/3 of the faculty are there. More than 2/3 of the undergraduates are majoring in those fields. And that's still the center point. There's been some minor shifts. Clearly, the growth of life sciences as opposed to the physical sciences. So the physics department is somewhat smaller, but the biology department is a lot bigger.

But all that is sort of I would argue in the noise. You know, they're all the sciences or engineering and the shifts in disciplines are just the natural evolution. Core values. Place that values excellence, values creativity, values entrepreneurship. Not a particularly hierarchical place. Good ideas seem to thrive no matter where they come from. All those I think are things that were true to a greater or lesser extent over its history and probably as compared to other universities, more true at MIT than a lot of other places.

INTERVIEWER: Do you remember when you first learned about MIT and how did you decide to come here?

LERMAN: Well, that's an interesting question. So I can't remember when I first learned of it, but I certainly had it on my list of places I wanted to apply to for a very long time. And I honestly don't know where it was I became aware. You know, as all high school students sort of grow an awareness of college opportunities.

INTERVIEWER: Did you know anybody who went to school here?

LERMAN: I don't think so, no. I was part of a wave out of my high school. Certainly the year before mine some of the students I knew went here. But if you go back five years earlier, there wasn't like a high school that was sending large cohorts of students to MIT. Year or two before I did it begin to grow and I think my year and the year before mine was probably half a dozen students that went. So it sort of happened fairly quickly.

But I was always interested. I think maybe my awareness started through, if I can recall it, there was a National Science Foundation summer program that I went to as a high school student. It was in astronomy--

INTERVIEWER: Where did go?

LERMAN: It was Mount Hermon Academy-- got taken over-- which is a private school out in western Massachusetts. But they took over the whole place and kids went there on the NSF programs. They had non NSF programs as well, went free. And so it was fantastic opportunity. It was the first college professor I ever met who ran the program in astronomy. And then many of those students also talked about where they wanted to go, and Caltech and MIT were on pretty much everyone's list, not surprisingly.

It was the first time I'd been in a group of students who all were incredibly smart and all who were fascinated by science and engineering. And in this case we were very interested in astronomy. I was an amateur astronomer. I built my own telescope. That was one of the hands on things I did as a kid. And it was also the first time I had an experience of an excitement of being within a cohort that was highly motivated, that really actually liked that stuff. It was small and the astronomy program alone must have had maybe a dozen students in it. We had a professor from Mount Holyoke College, was the professor. And it was great, most transformational experience for me in having a feeling of what it would be like to be with people who were similarly motivated.

INTERVIEWER: Did you have good math and science teaching in high school?

LERMAN: Yes. I had some great math and science teachers. I had some teachers who weren't very good, either. But there was some, both in junior high and high school, a couple of stand-outs.

INTERVIEWER: You were at [INAUDIBLE]?

LERMAN: No, I was at Elmont Memorial High School. And again, it was a mixed bag, like all high schools. But there were was a very good calculus teacher, which turned out to be very handy going to MIT. There were some very good basic science teachers. And my seventh grade math teacher for some reason was incredibly memorable. She was an incredible woman in terms of motivating those of us were really interested in mathematics. That was the year, of course, of major curriculum change. So it was the post-Sputnik era where funding and interest in sciences and math with growing. And the government was investing in it. New curricula were coming out. The mathematics, we got introduced to things like set theory and other things very early on in the curriculum, which I think was to me a very useful foundation. I think for students who were mathematically inclined it worked really well. For those I think more remedially necessary, it's probably wasn't a great service to them because they were doing with basic math skills. So I think I had a good but not certainly world class science and mathematics background.

INTERVIEWER: You entered MIT during the turmoil of Vietnam and the anti-war protests. Did those activities affect you at all, or did you focus pretty hard on the academics?

LERMAN: I focused fairly hard on the academics. I was tangentially involved. My one effort at poetry was an anti-war poem. That was published in one of the Cambridge off-off-brand newspapers. But I don't think I was deeply involved.

I was a little bit separated from the community in some ways. I was married very young. My wife, who I knew from junior high school, and I went to college together. She went to Tufts and I went to MIT. And that was a quite conscious decision, we were dating at the time. We were married our sophomore year. So then we moved off campus for a year. And then I moved back for my last year as an undergrad and my graduate years, but in Eastgate, which is married student housing, or family housing as we call it now. And the population that was overwhelmingly graduate students. We may have been one of one or two undergraduate couples in the whole place. So my community there was more graduate oriented.

INTERVIEWER: Did being married affect your decision to try to graduate in three years?

LERMAN: Absolutely. We were economically independent. I worked a couple jobs while going to school. My wife did as well. We did not have four years of tuition in us. So both of us graduated in three years.

INTERVIEWER: What kinds of jobs did you hold?

LERMAN: Well, of course UROP-ing was a great one. But for a while I drove a lawyer who was handicapped. We had a car at the time, because we were living in Malden for that sophomore year. So I would drive out to Lincoln, Massachusetts in the morning. On the way I'd usually drop my wife off at Tufts. I'd pick him up in Lincoln, drive him to Boston, go from Boston back to Cambridge, and then reverse the route when he had to go home.

He was an interesting guy. He was a lawyer. He--

INTERVIEWER: He had sheep.

LERMAN: Yes, he had sheep.

INTERVIEWER: And his wife's name was Betty.

LERMAN: I don't, you must know them. And he was a fascinating guy--

INTERVIEWER: Alvin.

LERMAN: Alvin, yes. He had gotten polio. He contracted polio as an adult just before, of course, the vaccines came in. I was born in 1952 and so I remember kids maybe three years younger than I, two or three years younger, who had polio. But you know in my cohort I don't remember ever meeting a kid, except at a camp once, who had polio and it was because the parents didn't vaccinate him early enough. And he was considerably older, but if you were any younger than I was, you could've had polio.

INTERVIEWER: Did he become a mentor or an advisor at all?

LERMAN: No. He was interesting, though. I learned a lot in the sense that he was politically, actually more liberal than I was, in some ways. He was, you know, very much an anti-war activist. And I think I learned from the experience.

Here was someone who, one might have argued life dealt not exactly a fair hand, but he made the best of it. He was a practicing lawyer. They still had sheep, you know, and they adapted the house. And this was of course, pre ADA, so I became very aware of how ill-suited some of the facilities were, and part of me is still have very much interest in things like ADA compliance. I think it's because of that experience having helped him through, dealt with the practical realities of getting a wheelchair in and out of places, that a piece of me is still very much interested in the areas of ADA compliance.

INTERVIEWER: What about transportation systems interested you? Do you recall?

LERMAN: Well, I think everyone has some interest just through personal experience, but I think part of it was I think it was a great domain to look at the intersection of economics, technology, and social policy. And the era that I was an undergraduate was a transformational era in transportation because it was a time with people questioning what had become the standard master planning approach, which was overwhelmingly highway oriented.

So the classic case study was in the Boston area where there had been a plan to build a highway to connect major existing highways and to drive a circumferential road, which was called the inner belt-- which never got built --and some spoke of out of that through some neighborhoods in Boston. And before that time the prevailing wisdom was, yes you had to take a bunch of houses, but it was net socially good. And those people whose neighborhoods were basically displaced we're almost considered collateral damage. And everyone would agree it was unfortunate, but there was just part of the master plan to achieve it.

This was the year in which people came to start questioning that, and political forces started aligning to resist that and to say, maybe having a highway through the neighborhood isn't such a good thing. And maybe the neighborhood matters more.

And that was a fascinating to me convergence around, so how do you look at alternatives? What's the appropriate role of the technical analyst?

Someone who was a very influential figure in my academic development, who really was one of the leading thinkers, a guy by the name of Marvin Manheim. And Marvin was a faculty member and one of my mentors. He ultimately, later in his career, actually moved to Northwestern to go to a faculty position at Kellogg, and then he died of cancer a while ago.

But Marvin was one of the people who articulated a very different way of thinking about engineering. Of thinking about the engineer as an information provider to decision making processes, and particularly relevant to civil engineering, where the things you build cannot be divorced from the large societal context. So you're building a new semiconductor, either works or it doesn't, and yes, in the aggregate semiconductors have enormous consequence, but every one semiconductor does not change the world. But every highway, every dam, every bridge has enormous social consequences, and you can't think of them in isolation of the economics of them, the urban development consequences.

You just can't be in isolation or just think technologically. You have to think more holistically.

INTERVIEWER: So were you taking courses in political science or city planning or economics?

LERMAN: All the above. Yeah, I could've gotten a Master's degree in economics given the number of courses I took. I took some political science on urban structure. I took a little bit of urban planning and urban economics. So the course offerings were very eclectic by engineering standards, the program I took.

INTERVIEWER: You mentioned having done some years of UROP. Were you the first year they started it? Or very close to the beginning?

LERMAN: It was early in the stages, but I was not the first. I actually can't remember the exact date. I'm sure one of the people you interview will.

INTERVIEWER: I think it was the late 60s.

LERMAN: Yeah, and so we were in the early stages of UROP. And I UROP-ed predominantly for Marv Manheim and then people of similar environmental engineering.

Mostly, it's also where I built my interest in software, computers. This was a time when particularly in civil m there was a lot of innovation about developing computer aided tools to assist with the various sorts of analyses. And the project that I spent almost all my time working on as a UROP was building a software system that would support transportation analysis. And this was, at that time, extremely innovative for civil engineering.

Civil engineering owned one of the early computers that was one of the first computers around MIT where the students could actually put their hands on it. It wasn't in the back room. They'd gotten a grant from IBM and the course, one of the major entry level courses, called 100, which I took as a student.

INTERVIEWER: I did, too.

LERMAN: Yeah, and then the ultimate thing that tickled me was that I ended up teaching it. I taught it both in the late 1970s, and then I taught it in the 1990s for about eight or 10 years in a row. So the funny part is I took it from people like Joe Sussman and Dan Roos and Bob Logcher, who were faculty members--

INTERVIEWER: Does it still exist now?

LERMAN: Oh yeah. Yeah.

INTERVIEWER: Even with laptops and iPhones and so forth, you still need to take 100?

LERMAN: Yeah. It's transformed, of course. We teach them different programming languages, different tools, graphics. I mean it's different content, but the core goal of it actually isn't that different, which is to teach students how to use computers as effective tools in various forms of analysis.

INTERVIEWER: Interesting. How satisfied were you with your undergraduate education at the time, and what do you think of it now? If you could reach back and tweak anything, was there anything you would have done differently?

LERMAN: Well, I benefited because my own personal interest in the great flexibility that characterized that era. So my guess is I would've been less happy if I take an engineering curriculum five or 10 years earlier. But I was lucky enough to hit the era of curriculum change in which people who had interests which were not what a lot of people would have called hard core engineering, but who were interested in this nexus of technology and planning, economics, social theory, that you could do that in engineering at that time when you couldn't have possibly done it before. So the curriculum was much more flexible that it had been even five years earlier, even three years earlier. So for me that worked fantastically because it enabled me to work inside an engineering department but also have the flexibility to learn things that a lot of engineers earlier would never gotten a chance to look at.

INTERVIEWER: Is the curriculum still that flexible? Has it remained so and how well do students tend to use that flexibility?

LERMAN: I think interesting enough, I think there's been a shift back to a slightly more conservative curriculum. Conservative in the sense of not being quite as flexible and more things defined, more prescribed. But it's sort of in between where the old days and now. And students may be a little less interested in that. I mean, I think it came with the generation. Where not only were people questioning their government, but they were also questioning traditional structures for course offerings. And so it fit with the times, and I think today's times are noticeably more conservative on those sort of things.

INTERVIEWER: I guess there's a move right now in engineering to create paths that are more flexible from each of the departments, so I guess they are reinventing that wheel?

LERMAN: Absolutely. We just approved a program for mechanical engineering called-- well, that's actually been around for a while, 2A. And then aeronautics and astronautics just approved a curriculum that has a similar feel to it. And yes, I think it's exactly what you're suggesting. I think there what it's opening up is the students to actually more easily choose multiple disciplines. So I believe we'll see from that a growth of multiple majors, do a lot more dual majors because it's just easier to fill the curriculum of two different departments. So yeah, it's a bit of a shift backwards.

INTERVIEWER: When did you decide to stay on for graduate school? And did you think of going any place other than MIT?

LERMAN: I gave it a little thought. It was complicated locationally. By that time my wife had graduated-- same year I did -- and she had a job in the Boston schools as a teacher. Jobs were pretty scarce then for teachers. And so she got this job and it wasn't like you could easily pick up and move. I was offered admission and a first year graduate fellowship, which actually was an NSFA trainee-ship. And so it was economically it was the first time we wouldn't have to worry about tuition. We'd have a stipend. And so I actually did not apply to other graduate schools at the time because the offer came in quite early. I was approached by faculty and I was still very much interested in the whole field.

The other thing in transportation: this was a time when there weren't that many programs out there. And I think it's fair to say MIT's keys program in the fields I was interested was so much better than everyone else's that it wouldn't have been all what useful to go elsewhere, other than for the different look at things. Now there are many more very good programs and a student and doing what I wanted to do could go any one of at least a dozen places. At least half a dozen would be world class.

But at that time MIT was really out in front in this field. And this was the Mecca for people who wanted to study these sort of things. And Manheim was here and a bunch of other people who were really lead figures.

INTERVIEWER: Besides not having to pay tuition, getting paid or funded to go through, how did being a graduate student here compare to being an undergraduate? Did much change?

LERMAN: Enormously. It's normal things. Course work was less relevant. I was working with-- very influential for me was I shared offices. I had offices in UROP and actually I still know some of those people --four graduate students in an office, all of whom shared this interest in transportation. And I really got to understand the benefits of peer learning. Because we got great advice for our advisors, but that was intermittent. But we actually saw each other 10 hours a day, and we would talk about you know, the work we were doing that had enough intersection that we really learn from each other.

INTERVIEWER: Have they all stayed in academia, too?

LERMAN: No, actually. One did. One actually, was Israeli, and he actually became a member of parliament in Israel. Actually a well-known figure in the Israeli parliament, and the other one did go into academia. So three of us were academia, and one went to academia then politics.

INTERVIEWER: Did you know as you started graduate school that was the path you would continue on or was it more open?

LERMAN: It was more open. Simultaneous with doing that a group of the faculty had started a consulting firm that they invited me, as a student, to work part time at. Because I was on a fellowship I could do that. And I began to spend I would guess about 10 hours a week at this consulting firm. And it offered also a range of opportunities as well as compensation, which was great when being a teacher didn't pay well. It was a good job because it was a job, but it didn't pay fantastically. And graduate stipends were small.

So I worked at this consulting firm and it opened up a whole range of new options. It was a consulting firm and when it started it was a group of faculty and they hired a president and it was me showing up periodically. I got a fantastic opportunity from it. They had this project in the Netherlands, and it was to use the sort of mathematical analysis tools that I was doing my research on and I had learned at MIT and to transport that to a consulting project in the Netherlands. So my wife and I got to spend an entire summer in the Netherlands.

I was working in the small Dutch town called Deventer-- barely a city, I would say-- commuting by bike, and they provided an apartment and a salary. And we had this great summer experience. I learned, you know, a lot just being there and it was just fantastic. I think it was the summer before I finished my doctorate I did that.

INTERVIEWER: And the decision to stay on and be a faculty member here, how did that happen?

LERMAN: I applied to a couple faculty positions, mostly local. Again, my wife was still a teacher at the time in the Boston schools. I applied to a position at Harvard, and I applied to a here, informally. It was much less formal then, too. And I also had, as another option, going to the consulting firm. And I was undecided at the time, but eventually MIT did make me an offer to stay on the faculty as assistant professor. And I decided some way that I could have my cake and eat it too, because I could still be affiliated with the firm on a part time basis. Day a week would be the typical guidelines for faculty member. And I was doing some really interesting work. The work they were doing, and still do, you know a lot of it was publishable. So I could do projects there that had a fairly deep research content.

INTERVIEWER: So what about the academia part made you want to keep one foot on this side?

LERMAN: Well, I love teaching. So one of the experiences I got: I was never a full time TA, but one of my colleagues-- someone who I co-taught with after that --offered me the opportunity to guest lecture his course. And so I would come in for four or five lectures. This was professor Moshe Ben-Akiva, he's still on the faculty. He was wonderful as a mentor, and he gave me the opportunity to guest lecture. And I loved guest lecturing, I love lecturing. This was a graduate course, an advanced graduate course. And I enjoyed it, the students enjoyed it, and so teaching became something which I always liked, but I realized it was something I really could do. And so the opportunity to teach I think was really important to me.

INTERVIEWER: It doesn't sound like you had much discomfort about moving from being a student to being a professor and teaching students who were probably about your age, if not older.

LERMAN: They were typically older. I was fairly young when I graduated.

INTERVIEWER: You went through in three years and then three years for your doctorate.

LERMAN: So I was 23 when I joined the faculty and most graduate students were 24 or 25. But actually it never became an issue. I think first of all, the students were great. They, I think, responded quite naturally to the fact that you know I really was in front of the classroom, not in the seats. It actually was never an issue.

I told my daughter who's an academic-- one of my daughters is an academic --I told her, part of it is just remembering that you are the professor. And students follow the lead. And of course, my style isn't dictatorial in the classroom, anyway. So if they have other thoughts, great: it makes classroom time interesting.

INTERVIEWER: So after you became a professor, you seem to have this proclivity for picking up projects and things. I guess one of the most visible was Project Athena, probably one of the largest. How did you get involved in that and what was it intended to do and how did it go?

LERMAN: I got involved. The dean of engineering had this little group that he got together every week for breakfast. I forget what day it was, and he asked each of the departments to send someone. The group was to sit around the table and talk about what could you do educationally if computing were ubiquitous and free. Now, wind the clock back. At that point, access to computing was very limited. Either you were part of a research group so you could buy computer time on the mainframe, as it was called-- which was then a big IBM product. Or you were part of a department that might own a high-end mini-computer, and they let you use it periodically. But the average student never saw a computer, never got to use one except in these very rigid ways. And then the student information processing board would give out very small amounts of computer time. They would give it out as fake money, basically, so you would get \$50 worth of computer time on the mainframe.

So Jerry Wilson, who led this with Mike Dertouzos, who was then head of the laboratory for computer science, would get this group together to talk about, what would a world be like-- and they even had this crazy idea that the computers could actually talk to each other through this thing called networks --so what would a future be like in which-- in the same way, and it's extreme: everyone had you know, access to electric outlets --everyone had access to computers that could talk to each other. And we met and talked about well, what educational innovations might you leverage off of such a fictitious world?

And of course, they-- particularly Mike Dertouzos-- was very well plugged into where computer technology was headed. And what was called the ArpaNet existed in his research lab. A very small number of computers around the country were connected to it. It was only for research purposes. But he had seen the power of what having computers talk to each other could do. And had the vision-- he and Jerry Wilson had the vision to think, well what might the world be like 10, 20 years. And of course, they were incredibly spot on that these were technologies that turned out to be transformational in our lives.

So as the discussion went on, there were great opportunities, and Mike and Jerry were pretty well plugged into the two largest computer companies in the world at that time. IBM, which we still know, and Digital Equipment Corporation, which of course since has gone by the wayside. They knew that new products were about to come out that initially would be very expensive, but they would be computers that would sit under your desktop. And maybe they'd be a little noisy, and maybe they'd have big fans, but each person in your research group might have his own computer. And yeah, it might cost \$10 thousand initially, but they understood that that price would change very rapidly. And that there would be a new generation of products where each user would actually have one.

A little bizarre. We now of course call it the personal computer. But they saw that coming and they managed to persuade the companies that, wouldn't it be interesting to build this version of this world of the future that they were envisioning in which computing was relatively ubiquitous and everything was networked? Suppose we built it at MIT and then used it as a test bed to figure out how it might affect education?

Well, how do you build something that no one had ever built before and which was ridiculously expensive? What you do is get the companies to give you all the hardware you need and maybe some people and support. So they negotiated this idea to create this very large project, to create, to make MIT a laboratory for a future computing world, which literally didn't exist in almost anywhere else.

INTERVIEWER: And this was what, late 70s?

LERMAN: By this time these discussions were going on around 1982. And you know we were beginning to see, you remember the Apple. Apple shifted to Macintosh in 1984, but there were some predecessors to it. IBM was either talking about or just beginning to ship products. And we had the Ataris and other sort of game oriented systems that you could buy for your home that were actually rather inexpensive, even by today's standards.

So they got this idea and it gained momentum, it snowballed. Originally Jerry had, the vision was to just do it in the School of Engineering. And as the project got bigger and bigger in their heads it became clear, mostly from the senior administration's point of view at MIT, you couldn't do it that way because it would so lopsidedly resource the School of Engineering compared to the other schools, no one would want to major in anything else. So the administration said, you've got to do it MIT-wide.

So they formulated the thing, which didn't have a name yet at the time, that would be an MIT-wide initiative, rather than a School of Engineering initiative. They dragged in IBM into this. Originally the idea was to do it with Digital only, but they needed a second vendor. And began serious discussions, which ultimately led to the announcement of Project Athena.

I was part of that team and working group. And I thought it was a fascinating idea, I spent a lot of time on that committee, I began talking up a lot at it. And they launched the project with no director. And they launched it sort of late either May, June, sort of 1983. The project was flailing, unfortunately, because of lack of a director. Hard to recruit new staff, it was just unclear. And so it was-- I remember vividly when it was --it was the Friday of Thanksgiving weekend, 1983, when I got a call from Jerry Wilson's office. Now first of all, only Jerry and I would be working that day, so the Institute was dead quiet, even though it was technically a working day.

INTERVIEWER: Oh, so you were at work.

LERMAN: I was at work, yeah. It was technically a working day, but a yeah, nowadays we take it off, of course. But even then, almost nobody. But I had stuff to do. And I went up and talked to Jerry, and Jerry offered me this position to be director of Athena. And I told him, of course, the normal thing-- I'd think about it.

INTERVIEWER: Now you had tenure by then?

LERMAN: Yes, in fact I'd just been promoted to full professor. I forget what year that was, but I was relatively recently minted full professor. The tenure clock was a little bit shorter then. It was seven years rather than eight, so you got tenure at the end of your sixth year-- you knew you had tenure. And then a couple years later I got promoted to full professor.

And Jerry wanted me to direct it. And I went home and talked to my wife. I talked to some mentors. One of my mentors at that time was the then department head, Joe Sussman, who was someone I had known since I was an undergraduate. I got great advice from him.

INTERVIEWER: And what were the pluses and minuses? The pros and cons.

LERMAN: The negative is, it was clear that this was going to be pretty much a full time job, and so I would have to curtail my existing research in transportation to a greater, much greater extent. Eventually it tapered off. I would probably not be able to do the sort of teaching I was doing, because it would just be too big of a management job. I guess the third aspect was, this required a scale of management which I was unfamiliar with.

The Athena staff ultimately grew to about 100 people, about half students, half staff. It was a project, including hardware, that ran about \$20 million a year. This was in 1983. \$20 million was a lot of money. Much of it was in hardware, so some of it was what we might call funny money. So the real question, was I really up to doing this? I really didn't have the background in managing large projects.

But ultimately the pluses were, this was a once in a lifetime opportunity. You know, we didn't do Project Athena scale things very often at MIT, and it wasn't ever clear that another opportunity to run one would ever come around. So ultimately I decided to take it, partly because it was fascinating as an area--

INTERVIEWER: Did you think about the possibility of maybe it wasn't do-able? Or did that not seem likely?

LERMAN: Well, the good news is the thing we were to do was still a little vague, and so there was some flexibility. I certainly thought we might just fail miserably. I think failing miserably would be the failure to meet MIT's expectations, or failing to meet the sponsor's expectations and having them pull out, creating a disaster for everybody. And there were times that occurred to me as possible outcome.

INTERVIEWER: And so how long was it? What did it take for you to get it up and running and what could students do when you finally got it produced?

LERMAN: Well, we built a staff. And I got great mentoring. Jim Bruce, for example, who was then Vice President for Information Technology, was fantastic. He actually spearheaded a lot of the physical installation and design. We didn't have a network. We had to lay cable for networks. We had to find rooms. We had to install huge amounts of equipment. There was a time at which we they were shipping so much equipment we never had a place to put it. We put it in the corridors. So you'd walk around some of the corridors and there was very expensive computer hardware just stacked in boxes.

So there were enormous challenges. Jim was an incredibly good mentor to me on that dimension. Jerry Wilson was fantastic on helping me learn management. And then something that really helped me on the management side of running a large project, is each of the company sited staff, physically at MIT, to be part of the project team. So we had Digital staff, and IBM staff, and MIT staff. And some of those folks had much more management experience than I did. And they were very good at mentoring me on just the normal, what I call blocking and tackling, of running any large enterprise.

For example, I'd never heard of something called an organization development consultant. An OD person is what we call them nowadays. I didn't know they existed, let alone I could ask for one. And when we had some thorny problems with the staff, it was their idea: let's bring an OD person in. And they actually volunteered someone from their company. And ever since then I've loved OD people because they are great helps to people trying to run things. I didn't know they existed.

INTERVIEWER: And so one set of issues was where to put these and how to connect them. Was there a set of issues about well, what are they going to do? What do we need in terms of software?

LERMAN: Absolutely. So there were questions of software. Should they all run the same software? Should there be specialized software? The thing other thing we did is we ran a grant process. So faculty could apply for grant funds-- dollars that were raised partly from the companies, but more from outside donors --to undertake innovative experiments with building software and using it in the classroom. And so here's where some of the earliest interactive multimedia got tried out. Simulations, simulated laboratories, ideas.

None of that software still exists in its original form. It's been 30 years almost. But some of the conceptual ideas about educational software really arose from the faculty's experimentation. At one point we had funded, I think my count was over 100, projects ranging from really little ones to very big ones. Where the faculty would experiment and we would provide the hardware, technology support, and advice to the faculty projects to innovate educationally. And it was frustrating. It was the early days of software writing in the sense that writing these applications was very labor intensive. Much more so than would be today.

INTERVIEWER: So you had budget to write for people from various department? Or they had to come up with their own money?

LERMAN: No, we had a budget for them. So sometimes they would staff it themselves. At one point I decided to actually devote some portion of the Athena staff to have five full time people who did nothing but help the application developers. We picked the biggest projects that we thought were most fundamental and actually assigned staff to work with the faculty on them. But they also used students, their own research staff, that they hired from the money we provided.

INTERVIEWER: And how many professors were interested? And were they mostly from engineering? Or did you get humanities or social sciences?

LERMAN: There were dozens and dozens of them. I said there were hundred projects. Almost every one of them had one of more faculty associated with it, so there was tremendous interest. I would say engineering, probably the most. What was interesting is the second proportionally largest group participating were the humanities. Groups in foreign language education and a couple other fields got very interested in how you would use this technology to help teach and learn.

And some of the biggest projects. One of them was in language learning, where people like Janet Murray-- she was a staff member, a research staff member, she's now a faculty member at Georgia Tech-- Gilberte Furstenberg-- who taught French-- Doug Morgenstern, others, actually developed the first generation of interactive video. Things we take for granted now, but no one had thought about it. Could you put video on a computer screen and then interact with it in meaningful ways? And we wrote really interesting applications, that they wrote the help of Athena's funding, that really pioneered interactive video as a learning tool. Interactive multimedia as we call it now.

INTERVIEWER: How long did it take to get to the point where you felt like it was really adding serious value to a significant number of classes?

LERMAN: I would say three, four years in. A lot of energy went into simply building the physical infrastructure. Just find the places to put all this hardware and creating a culture that used it.

The other thing we learned, the other great lesson is, the value of computers were really two-fold. The one we talked about a lot was this interactive software, but there was a whole set of useful things that happened that I would call the utility value, which nobody talked about in the planning of this. We all talked about building these specialized applications. But it turns out it's really interesting when you have a thing called email. And every student is on email. We were the first university where that was the case.

Some interesting ideas. Some students got this wonderful idea that, what would happen if people are online and talking and doing their work. What would happen if you could message them? You know, wouldn't it be cool if you could sort of pop up a message on their screen? Or create groups? Let's talk, everyone interested in Civil War history, and they could message back and forth. They created something called Zephyr, which was a messaging system, before AOL existed.

INTERVIEWER: No one said OK, let's set up a company and commercialize it and sell the rights?

LERMAN: No, that whole idea was foreign. We made a strategic decision that everything that Athena did would be open source. So we were on of the first early open source movements. We felt it was really important. The other predecessor of the new work, which was also open source that led the way basically, in talking about the value of open source software. And Athena followed that lead and made everything it did open.

INTERVIEWER: How many colleges from around the country or around the world came here and said, gee whiz. What are you doing? Before you were up and running, I guess.

LERMAN: And while we were running. It was endless. In fact, we ultimately-- MIT hates to do this --but I got them to cave in and hire a full time person who did nothing but external relations.

INTERVIEWER: Only one?

LERMAN: Only one. Because it was bogging all the leadership down. I was spending more time. And the other pivotal figure here is Jerry Saltzer. Jerry Saltzer signed up about a year or two later as what we call a technical director. He's was a faculty member in computer science. He's retired. I'm not a computer scientist by background. And so I was able to I think we need lead project, get strategic directions, but I didn't feel capable of directing the details software development team. He came in and became the senior software architect. And our deal was I would run the project, but he would run the software side. And he did a fantastic job bringing a coherence and discipline to the software development process. The project was floundering on that dimension until he came in.

INTERVIEWER: So did a lot of what people invented work really well? Were there any real failures or duds?

LERMAN: Oh, yeah.

INTERVIEWER: Such as?

LERMAN: Well, one of the things we learned is that building effective educational software is much harder than we thought. And so I think in hindsight we launched way too many projects, each one of which was not resourced well enough. If I had to do it all over, I would've had much fewer projects. Maybe 20 rather than 100, over 100, and given each much more staff attention and money. I think had we done that-- we saw many projects just sort of dribble away. They got something sort of working, it was hard to get it working in the first place, the system kind of changed over time so each time the system changed, you know we're still familiar with this phenomenon, right? Your program works and then there's a new version of Windows and it doesn't work. But that was characteristic even then. We were simultaneously improving the Athena system along with trying to keep all these applications running, and sometimes those worked at cross purposes.

And if we had I think done a smaller number of projects, each one of which had more money, they each could have kept up. And so a lot of these interesting ideas never quite got to critical mass and dribbled away.

INTERVIEWER: Was there any single class, or two classes, that impressed you the most or surprised you the most where you said, gee whiz, oh, my god.

LERMAN: Well, I think the two that come to mind most quickly-- there are probably more than that --but the two that come to mind: one was these foreign language work, which was spectacularly innovative. Even today it would be pretty interesting, but to those standards it was off-scale innovative.

What they did was, I'll give you an example: you couldn't display digital video. Digital video didn't exist as a concept, really. So what we did was work with one of the companies to interface video disks, these big, 12 inch laser disk video systems-- which of course are completely obsolete today --interface them with a high end computer and so that you could open up a window in which you could display a single set of video or any video frame or moving video in real time. And then built around that software that allowed you to control the video and over-lay things on it.

And it became the foundation of some wonderful foreign language applications. One of them was a virtual tour of a district in Paris. And you'd walk around, and navigate around, and see things and you'd listen to conversations and then be asked questions about it. That one was really fun because eventually I actually visited that section of Paris. I went with one of the people I worked with who worked on that project. It was really fun. So you found the violin store, the bakery.

And then companion was a true interactive experience where you met a young Frenchman named Phillippe. And the attractive experience-- it's a game, basically --starts with Phillippe and his girlfriend at a cafe, a traditional cafe, and the girlfriend has just found out Phillippe's cheating on her. So they had this yelling argument and she walks away from the table, and Phillippe's problem now: it's her apartment. So you help Phillippe find an apartment. You do apartment hunting with Phillippe in Paris.

INTERVIEWER: When did Athena move from being an experiment to being permanent?

LERMAN: It was a three year transition process. So by 1988 it became very clear that we had to move Athena from an experiment to a service. And we had to move it organizationally from a task force to integrated in MIT's information systems organization. Frankly, roughly coincides with the time I became less interested. I think I was better suited as a leader for the more wild west part of this project. And I think it needed a different leadership. Five years was a long time, I was actually tired at that point. It was exhausting to do the project.

INTERVIEWER: Although you did then subsequently become head of the Center for Educational Computing Initiative.

LERMAN: Yeah, but that was 1991. So I left Athena later. So in '88 I left Athena. I thought it was a great time to take a sabbatical, which I had not taken ever. And I think I saw certainly that the next three years needed a very different type of leadership and different focus. And Earl Murman, I think, came in with the right vision for that period, which was how do we take this thing that was really an experiment, but more and more of MIT had become dependent on, and turn it into a highly reliable, low cost service? And that was the work from 1988 to 1991.

Still a lot of interesting things happening at Athena. Don't want to characterize it as simply how do you make a service out of something. But I think the end state in 1991 had to be something that MIT could then operate at reasonable cost and maintain using existing structures and not outside financial support.

INTERVIEWER: And how, then, did the Center for Educational Computing Initiatives get born?

LERMAN: So one of the problems with that transition to 1991 was, the question then becomes innovation? Who does this research on how do new technologies in computing and communications actually affect education and what could you do with the newest ones? That was no longer to be part of the Athena mission because it was a service. It had to be paid for by MIT, and had a function as a foundational service, not as an educational test bed.

And so Mark Wrighton, the then provost, asked me to come to his office and asked me if I would be interested in starting a research center that would carry on not the foundational systems work of how do you build a campus-wide computing system, but how do you build applications that layer on existing commercial technologies that are educationally innovative.

INTERVIEWER: Is that a little bit like replicating that Jerry Wilson group of people sitting around the table?

LERMAN: Absolutely. And the other wrinkle, of course, was an expectation that we would go out and get external funding to do it like any other research center. And we'd have a portfolio of projects, not a single sponsor. But we would write grant requests, and we would look for commercial sponsors and actually do innovative educational technology projects.

And I thought that would be a lot of fun. I was more rested at the time. I was still energized about educational technology. [INTERPOSING VOICES] Sabbatical. And then I did some stuff in civil engineering for a couple of years, which I really loved.

INTERVIEWER: Transportation again?

LERMAN: No, actually by that time I was working on computer systems, computer applications. I pretty much made the full transformation out of transportation now to this new field. And I decided to start the center, he gave me some seed money, and we went out and started writing proposals, looking for industrial sponsors, and starting a portfolio of projects.

INTERVIEWER: And the most interesting of those looking back?

LERMAN: It grew out of the interactive media work. So that interactive multimedia. One of the things Athena started during that period was develop an authoring language that would be explicitly designed to help build interactive multimedia tools. We called it Athena MUSE at the time. And when Athena finished, some great people worked on this, but it was really not a full-blown language. So what we decided to do was seek sponsors who would help us build that language. And that was the initial cornerstone project, to design what was basically an interpretive language in which there were structures and concepts for media. So there were ideas like pictures and video clips that were integral to the language. It knew about those things, which programming language at that time had no tools for. And originally the original base technology was still this interactive video disc, but then as digital video began to become feasible, we began to adapt the language. And we built that whole language initially on UNIX systems, and then we got a group porting it to windows.

INTERVIEWER: Any other particular projects that you found especially noteworthy?

LERMAN: We also got very involved with multimedia archives. And so there was a wonderful project, which continues today, that was done by Pete Donaldson, which he moved into the lab, which was the Shakespeare Electronic Archive. The idea of building a collection of teaching materials that was easily accessed to teach in this case, students about Shakespearian plays. The idea that there were multiple texts, that you could look at them. There were multiple performances of the same scene and you could actually bring them onto your computer desktop and understand how a scene from *Hamlet* done by Olivier might have a very different meaning and interpretation than one done by Mel Gibson. And he was assembling this and the center became a very good home for that sort of work. And then it became a home for other faculty projects over time.

INTERVIEWER: You were chosen as chair of the faculty in 1999. How did that come about? Were you politically active in the faculty? Or who makes those choices and what do you have to do, and do people run away?

LERMAN: Well, actually the more pivotal turning point was becoming associate chair. So Lotte Bailyn was a faculty member in Sloan, was chair. And how she became chair, I have no idea, other than the usual process of why she was chosen chair. She's an incredibly wise individual and made perfectly good sense. She went out to look for an associate chair, which the chair typically does. And I don't know who gave her my name. We had never met before, but I think she certainly since she was in management, wanted someone in probably science or engineering as our associate chair because it was part of the MIT world that she knew less about. She came to talk to me, it sounded interesting. You know, associate chair is pretty light lifting compared to being chair. It's not a full time job, you're on a bunch of committees, and--

INTERVIEWER: But if you take it it's kind of a, if this works out I'll be the next chair?

LERMAN: No. Interestingly enough, not. The history is, most associate chairs have no interest in and don't become chairs. And I certainly at the time when I accepted the associate chair position, I had no particular expectation one way the other. But after two years in that role, well a year before that they decide who's going to be nominated to be the next chair.

INTERVIEWER: And who is the they?

LERMAN: It's a nominations committee.

INTERVIEWER: Of?

LERMAN: It's a committee of the faculty appointed, actually, by the president. And I've honestly can't remember who was chair of the nominations committee at the time, but they asked if I would be interested in moving from associate chair to chair elect. And I was enjoying myself. I thought it was fascinating so I decided to take it.

INTERVIEWER: What are some of the things that crossed your path when you were the associate chair?

LERMAN: Well, the associate chair sits on the Committee on Undergraduate Programs, ex officio. And I had never been on that faculty committee. I've been on some others. And so it got me much more involved in undergraduate education again across MIT. Sat on what was now then the Committee on Graduate Student Policy, ex officio, again. So there was that whole graduate side policy, and sits on the Faculty Policy Committee, the FPC, which is the senior governing Faculty committee. It's the committee that all, for example, things voted by the Faculty, are supposed to go through.

INTERVIEWER: And who sits on that committee?

LERMAN: Well, it's chaired by the chair of the Faculty. There are, the associate chair is on it, there are I think about half a dozen elected, maybe six or eight, I can look it up--

INTERVIEWER: They're elected by the Faculty.

LERMAN: Elected by the Faculty, nominated by the nominations committee, and then there's a graduate student representative and an undergraduate student representative. And then there's designees by the president and the provost. And that committee meets every other week to discuss matters of the policy. The president meets with it to talk about MIT issues broadly. It brought me for the first time into an arena of decision making at MIT that I never experienced before and around issues that were completely different from the ones I dealt with in my role as a faculty member, as the head of a division of civil and environmental engineering, as a project leader. Most of my experience up until that point was very either lab-centric or School of Engineering-centric. This was of course everything, across the Institute.

INTERVIEWER: Even in the Athena role you didn't go before all of these policy committees or the Committee on Educational Policy or any of that.

LERMAN: I think I had talked to them once or twice, but I certainly--

INTERVIEWER: Guest appearances.

LERMAN: Guest appearances. Not much involved in their business. I was not a regular at faculty meetings. I had been to some of them, but only rarely when there was something of great interest.

INTERVIEWER: And in your term as chair from 1999 to 2001, were there any particular issues that surfaced that were particularly engaging?

LERMAN: The biggest thing [INAUDIBLE] the year where we were formulating and then eventually adopting the communications requirement. So at the undergraduate level that was one of the big transformational changes. At the graduate level there certainly was discussions, but the truth is graduate education at that time was less in focus than undergrad.

But I would say the one single thing I remember vividly from our deliberations, and then while I was associate chair was also a pivotal time, was the period in which Scott Krueger died. So I was associate chair to Lotte Bailyn, and the two of us spent a lot of time working through all the issues and soul searching that went on with the death of a freshman, Scott Krueger, at one of the fraternities, and the transformation of the residential system. It really was a period of intense self-reflection about had we in some way designed a system that increased the risks of such events? And did we want that system going forward in the future? And that was fascinating to me.

INTERVIEWER: How many faculty felt strongly about that? I mean were there a handful, or did most of them feel like it was a responsibility of theirs to think hard about it?

LERMAN: Well I think the initial reaction was very widespread, but to be honest I think it was much more shock and sorrow. But not a deep engagement in the questions. I think like most things, most of the faculty are deeply involved in their teaching and research. And they're actually most happy if the place is going well, to have other people run it; the administration and those small number who want to be involved in faculty governance. I think there was an upward tick in involvement, but it was certainly not the case that half the faculty wanted to engage deeply these issues. Frankly, we wouldn't know what to do if half the faculty wanted to engage in such issues.

I think it's a characteristic of the place that most faculty, most of the time, would like the place to be well run, they would like the faculty to be enabled by the administration, and as long as that's done well they're perfectly happy having administration run the place.

INTERVIEWER: And in terms of this issue I guess the outcome that changed things most was the decision to pull freshman onto campus altogether. Did you have a personal feel on that and whether that was a good thing? Or whether there were other things that might have been done?

LERMAN: Yeah, I think it was the right thing to do. My personal view at the time, and still is, that it is a healthier environment. That the developmental stage for many-- every student's different, they're at a different point in their maturity --but that freshmen are better served by spending at least a year in the environment of the campus where there's a support structure of graduate resident tutors and housemasters and an environment where they can get that support as they mature to the point where they're in a position probably to make better choices. And again, every student's different. Some come in knowing how to make good choices, some will never know how to make good choices. People are just very varied in that. But I think on average, it's the right thing to do that freshmen should live on campus.

INTERVIEWER: Did you get involved in trying to sell that outcome? I know it was quite contentious when it was decided.

LERMAN: I was certainly one of the people who was an advocate for it. Ultimately, the burden fell on Chuck Vest. And to the extent that it was controversial, he took the heat for what I think was fundamentally a correct decision. But many of us believed all along that it would have been a correct decision independent of whether there was a tragic death or not. Even before I had come to the conclusion it was not a good system. It was very atypical for modern universities. I think it was a legacy of an era in which the model of student as fully developed adult, even from freshman year, was the dominant one. And I think both biological and psychological evidence, and frankly just pragmatic experience, I think leads us to believe that we have a rule in the further development of our students that goes beyond just you know, welcoming them in at 18 and treating them as adults.

INTERVIEWER: Was there much discussion of could the faculty, or should the faculty be more involved with the students? And was there a way creating a closer community or some kind of model that somehow engaged the students more and with the faculty? Or did people say, you know, we're very involved. This is something different?

LERMAN: Well, I think there had always been, and still is to a great extent one of the many universities, that what metaphorically people talk about is the Massachusetts Avenue divide. Where east of Mass. Ave. is the academic space. Of course we do have dorms east of Mass. Ave., so it's only a metaphor. But it was the academic space and that was the domain of the faculty, administration. West of Mass. Ave. with the dorms, metaphorically, and that was the students' domain. And never the twain shall meet. And I think that's a fundamentally broken model and leaves out the tremendous role faculty could play.

Of course, again, most faculty are not going to be housemasters. But we start ramping up the House Fellows Program so more faculty would spend more time in the dorms. We certainly tremendously resourced the housemaster system, which I think had atrophied. Not that they weren't great people as housemasters, but they had no resources. They had no money, they had no ability to bring people in to create programs, to build what I would characterize as a vibrant and healthy residential community in their dorms. Post all freshmen on campus decision, post the Scott Krueger tragedy, MIT started investing enormously increased resources in that system. Ranging from the practical, such as renovating all the apartments that needed work so that faculty wanted to move there, that it was a comfortable, safe environment for them, to giving budgets to the housemasters of significant scale that allowed them to hold events, to improving the quality of graduate resident tutor recruitment and adding more tutors so there were more, quote, adults. Or you know certainly people of more experience who would interact regularly with the undergraduates. All of that I think was part of this movement to improve the quality of the residential life experience.

INTERVIEWER: How successful do you think MIT has been in that respect? Is it really possible to create these types of communities? I mean, I can remember we had a housemaster in my dorm and I went to an occasional reception. I was close to a lot of faculty, but I never got at all to know the housemasters.

LERMAN: I think it is possible. I think particularly the combination of housemasters and a cadre of graduate resident tutors allows us to be in touch. Now, not every student wants or needs it. But I think we do a much better job identifying students who are having trouble, students in potential crisis, providing support. The other thing we did in that interval was tremendously ramp up mental health services, and have sort of the housemaster control on resources beyond just the house. If a student needs counseling or psychiatric help, there were people you could bring in. Many housemasters will walk students over to such services. I think students now who are looking out for each other have a place to go when they're in over their heads.

I think for many people, not every student knows their housemaster, or knows them well, but I think for many people housemasters now provide that frontline of problem identification and getting students linked up with the resources necessary.

INTERVIEWER: Is it a more paternalistic model than a society that had veered away from that?

LERMAN: Absolutely. It's a return, frankly, to a modified version of the *loco parentis* model. That if one dials the clock back, universities started out being *in loco parentis* for what were perceived to be--

INTERVIEWER: But pretty rigidly.

LERMAN: Very rigidly. Depending on how far you remember back, there were sign-ins in dorms and sign-outs. There were no coed dorms, and there were various restrictions on whether men could be on the floors of a woman's dorm at certain times. It was paternalistic and then we totally abandoned that in the Vietnam War era, and went back to what actually was a model that was probably more common when the World War II veterans returned. When the cohort of veterans returned and went to school, they were adults. These were people who were older, whose life experiences were so different, thinking about us *in loco parentis* for them would be ridiculous, in the sort of 1946, 1947.

We then went to the 50s, which were more conservative. We became more in *locoparentis*, quite formally in many ways. The late 60's, early 70s, we relinquished all that role. And I think today, I think there's an expectation, a parental expectation, that the university now goes back and owns some, but not all, of that *loco parentis*. I think they expect services, they expect us to do a better job with the students when they have trouble, they expect us to know what's going on. I think we've ratcheted up the expectations. And the parents themselves are much more engaged in the lives of the students than would be true.

I mean, I think the standard model, certainly for me was Mom and Dad dropped you off, left the luggage, waved goodbye, and that was the level of engagement. And some people called them once a week, and some didn't. I think now mostly for better, occasionally at extreme for worse, parents want to be engaged and the students want their parents to be engaged.

INTERVIEWER: Either that or they're used to it.

LERMAN: They're used to it and actually, they value it. You ask students who they go to for advice? And I think in my generation parents wouldn't have been on that list.

INTERVIEWER: We went to each other.

LERMAN: Each other, peers. Today's students very freely will turn to parents as the people they think actually can be useful to them. It's extraordinary and actually wonderful in many ways. And healthy in many ways. But I think students are more comfortable in being younger in developmental than their counterparts of the same age 20 years ago. Many of them recognize themselves they're not ready to be independent adults.

INTERVIEWER: What made you and Lori decide to become housemasters? Were you drafted or did you volunteer? And what possessed you?

LERMAN: Well, what possessed us? I had always been fascinated with the idea. But when our children were growing up-- we have three children --when they were still at home-- some housemasters do have young children and live in the dorms --for us it wasn't right. We were in a suburban environment, our kids were in elementary and high school they liked, they for the most part thrived there, and we did not want to disrupt that.

But when our last child-- our son, who is our youngest, --was about to go off to college, we began looking around saying, well what's next? For us, our ties to the suburban community we lived in, Winchester, were very much around the schools. The kids' activities, the kids' shows, the kids' band concerts, we were very involved in the community, but on reflection it was because we had kids in the schools. And we were looking for something, what's the next phase?

MIT was just finishing up plans to take a warehouse building and convert it into the graduate dorm. It was the first of several projects that would get done in the northwest sector of the campus. And the then chancellor, Larry Bacow-- who, of course, we both know became president of Tufts shortly thereafter-- I was chair of the Faculty and he sort of leans over at a meeting and says, Steve we're building this new dorm. Have you and Lori-- he knows my wife-- ever think of becoming housemasters? So I said, Larry, I'll get back to you. And I went home and talked and a little bit to my surprise my wife was fascinated by the idea.

This was the time. We had talked about the concept and rejected it many times when we had kids who were still in the schools, but this was the right time. And we thought it would be great. And so we committed when the building was still actually on the planning, let alone construction. And we had the good fortune of being able to be involved in its design. And then when the building first opened-- again, it was an old warehouse building that opened as a dorm-- we were the first people to move in it. Well, first legally to move into it.

INTERVIEWER: Did you get to design the apartment?

LERMAN: Somewhat, yeah. There were little undesigned elements of it. And within certain parameters we moved some things around. And we changed things, but all those changes actually in hindsight we like.

INTERVIEWER: What did your kids think of this idea?

LERMAN: Well, you know they were great about it. I think somewhat, little bit, particularly our youngest-- we were going to move out of the house, of course eventually sell it --that he had grown up in. And I think he envisioned having much more connection to the town, we weren't going to live in the town where all the social connections were. Our older kids had been out long enough I think, that was only a minor issue. In hindsight he recognized, and we recognized, that was never an issue. Because his new connections where he went to college ended up being much stronger. And yes, he kept in touch with a couple of the people, but being in Cambridge was not a barrier to that. And we loved the shift of environment and the idea of working with a community of students to design a whole new house government. It was wonderful.

INTERVIEWER: Do you think you might have considered it if it had been an undergraduate dorm? Or was there something about the graduate that--

LERMAN: We would have considered undergraduate dorms.

INTERVIEWER: It just happened.

LERMAN: It happened to be graduate at the time. We certainly had Larry come to me and saying something, we have an opening in an undergrad, we would have talked about it and thought about it. I was not yet graduate dean certainly, and so the courses I was teaching were actually undergraduate, not graduate.

INTERVIEWER: How different do you think the role of a graduate housemaster is from an undergraduate? And what have you and Lori done during the years? What are the responsibilities and so forth?

LERMAN: Well, they're very different jobs. The issues you deal with are in many ways very, very different. And I have to confess I think in some dimensions, the undergraduate housemasters have a harder job than the graduate. And at the graduate level, they're pretty much fully formed adults. They have problems, but they are adult problems. But certainly they have mental health issues, they have social issues, personal issues, they're just a more adult version of those. And helping some of them with those.

Many of them are talking about, should I get married or not get married? These sort of more adults things. One of our approaches is we wanted to create not just a social community, but an intellectual community. So one of the things we've been doing actually in more recent years is a series we call the Thank God It's Friday Series, in which we invite prominent individuals either from the faculty or community or sometimes outside, to come for wine and cheese-- which of course you don't do at an undergraduate dorm --and conversation. They do a little 15, 20 minute presentation just off the cuff. The students really enjoy that interaction. Maybe it's slightly glorified to call it a salon style interaction, but it has that feel of introducing them to someone in the community they would have heard of.

We've had some wonderful people do it. Tom Ashbrook who is on WNPR. We did one with us. Jay Keyser, who is a faculty member you may be interviewing at some point, did one. John LeFavre did one. Each one of the people we invited in was fantastic. John Ochsendorf was in. The students love these events.

INTERVIEWER: And you tended to get how many?

LERMAN: 15, 20, which for us is 1/6 of the dorm. It's a small dorm, it's 120 students. And then the things they really love as well are home cooked meals. So, as I might have mentioned, my wife and I cook breakfast for the whole dorm in our apartment. About half of the people come. And we do pancakes you know in various flavors. We started that the first month we moved in, and we've done one every month of the academic year since. So I--

INTERVIEWER: You actually flip them?

LERMAN: I actually, yeah--

INTERVIEWER: All of them or do the students then help you?

LERMAN: No, we try to do it for them. So I think I made, I think I estimated back of the envelope, 30,000 pancakes or something over the years.

INTERVIEWER: Takes a long time to flip pancakes.

LERMAN: It does, but as I mentioned, the way they equip the kitchens, they design them-- the apartment in and kitchen -- for precisely this reason. So their layout really supports this sort of activity. So I've got a range that has a griddle built in, a big griddle. So one can do you know this--

INTERVIEWER: And they can stand there around you while you're doing it.

LERMAN: Yeah, they pass through, and you can keep up with the demand, and then--

INTERVIEWER: I guess the biggest question I would have had with the grad students is, if and when they had questions would they come talk to you? I guess this is a way breaking the ice?

LERMAN: It is. And the other thing is because of my position as faculty member and later as dean, they come for advice about their lab work. I can't advise most of them on the technical part. I can talk about if they're unhappy with their adviser, if they are having conflicts over who gets to publish what? Those are things I actually do know about. And I think having a senior faculty member who has a lot of experience running a lab, running an organization, running a center, is a resource that they really do value. And a lot of discussion is about that.

And the other thing to be clear is, there are two housemasters: my wife and myself. I am not the housemaster, we are the housemasters. And she has brought her own experiences. She's a teacher, she's a registered nurse, she's of course raised three children with me. And a lot of their questions are about things like that. I think women students in particular want to know about work life, family balance. They want to know about alternative career paths. And there's a bit of modeling that goes on in our relationship. They want to know what it's like to share something like being housemasters. Pragmatically, and she's also a music teacher, so she used to teach short music lessons to graduate students during her tenure.

She had a whole program called the Warehouse Music Program. We had recitals, we had jazz brunches where we invited jazz combos to come in, both perform at the brunch but then talk about the music making process. Students love that sort of thing.

INTERVIEWER: How much training or coaching or support does MIT give to housemasters?

LERMAN: Not that much. It's mostly peer coaching. So when we decided to become housemasters but were not yet in the building, a number of the other housemasters invited us to dinner, talk about what they did, talk about the challenges, talk about the resources. They were incredible. People like the Essigmans and the Stewarts, Charles Stewart and Kathy Hess. People like, couple others, Vern Ingram, his wife Beth also had us over.

INTERVIEWER: Any of the advice stick in mind? Anything counterintuitive?

LERMAN: Not so much counterintuitive. One of those I think it became very clear from their advice is it's useful to establish traditions. That whatever the thing you want to do, so for us pancake breakfast became the dorm tradition. And the other thing is always try to mobilize the student governance system. So create a student government that takes on most of the role, so you don't have to do everything.

INTERVIEWER: Within the dorm?

LERMAN: Within the dorm. So most of the activities, most of the dinners, are actually student run.

INTERVIEWER: And they're willing to do that? They'll make the time?

LERMAN: Yeah, they do it. The spirit of student community is fantastic. I mean dorm leaders will spend a lot of time and energy trying to create a welcoming climate and events where students socialize and get to know each other. They do a tremendous service. If you add up the total work done to run the dorm's social and intellectual life, the students do the vast majority. If the housemaster is doing all of it, nothing works. But working with them is a great pleasure, so we still know many of the people who've been in our student governments.

INTERVIEWER: How much time does it take? Did you ever try to total it up?

LERMAN: No. And let me be honest. Lori, my wife, probably spends two or three times as much time as I do. But she's a very activist housemaster. She works at home. So teaching music, so she was physically there. And so she took a lot of the responsibility. My role tends to be more evenings. I would say in a typical week there's two, maybe three evenings some weeks-- depending on the time of the year --which there's some event or some activity. It could be doing a government meeting, it could be a social hour, it could be a dinner. And we would do a couple events a month in our apartment which we would own and take responsibility for. There is housemaster dinners, where we all get together. There's housemaster breakfasts with the dean; those are monthly activities. There's a lot of interaction. But those are great because it's a great peer support and exchange of ideas.

So it is a non-trivial part of one's life. It's a lifestyle. But there are benefits, too. I don't mow my lawn. I don't have a lawn, but you don't mow the lawn, you don't have to do home maintenance. If something breaks MIT deals with it. And I walk to work. So there's also that whole aspect which I am much less burdened with time commitments to those things.

INTERVIEWER: Coming back to the Institute at the Institute. Another of the big issues that arose during your years as faculty chair was MIT's decision to create OpenCourseWare and you seem to have been part of it in several ways. Can you talk about that?

LERMAN: Well, I was part of it. Not only was I chair of the faculty at the time, but I was part of the committee that ultimately recommended OpenCourseWare. So I always thought it was dual role. And it was actually fortuitous because having an advocate for doing OpenCourseWare who was also chair the faculty and could help engage the faculty, elicit their views, and ultimately get by it from the faculty, was very helpful to OpenCourseWare.

So there was something called the MIT Council on Educational Technology that I was part of. One of the working groups led by Dick Yue-- I was not on this working group, but Dick Yue was, Shigeru Miyagawa was part of it-- came up out of left field with this, at that time bizarre, idea: let's take all the course materials and make them openly available.

You have to wind back the clock and understand the context. This was at a moment in time when various organizations were actually trying to use the internet for revenue generation. It was a dot com boom. And universities were getting on the bandwagon saying, how can we make a ton of money from our content or our courses-- for good causes to so as to subsidize the rest of the university, which was increasingly expensive --and we looked at that very intensively. Dick Yue, in particular, led this group that looked at it with some consultant help, and concluded that we couldn't make money at it and do it in a style that the MIT faculty, at their quality level, wanted.

So the faculty wanted very hands on education. They wanted a lot of contact of the faculty with students, and frankly internet-based education doesn't work economically that way. It doesn't scale well if you're going to have the same level of contact that we now assume for our face to face learning. You have to be willing to teach en masse and no one had an interest in that. So the committee sort of scratched its head. It was supposed to find out some way to do this to make money. Couldn't figure out a way to do it that is consistent with the core values of the Institution and its faculty. And someone, I don't even remember quite who came up with this slightly hair-brained idea, which turned out to be brilliant, which is, alright let's give up on the money thing. What can we do that helpful and useful? And the idea was let's take our course materials, put them in electronic form, and give them away.

[INAUDIBLE] research teaching. It's so simple-minded that it's-- like all really important, profound ideas-- in retrospect it seems simple-minded, but it's actually much, much deeper and more profound. So I was very involved with the group that it took that and said, OK. Great idea. Now how do we do it? How do we find funding for it? How do we write proposals to foundations? How do we persuade the faculty that this is a good thing to do? And find out how many of them want to do it?

People like Hal Abelson were great leaders in this. A group of us went out and with every department face to face to understand what they liked about the idea, what they disliked about the idea, what we could do to modify it so they would find it something they wanted to do. We wrote the first proposals to the Hewlett and Mellon foundations, with the core funding. That was work that Hal and Dick and I and a couple others did.

INTERVIEWER: And this was all after I guess the idea had surfaced and Chuck liked it-- Chuck Vest-- and had taken it and sounded out Mellon, or maybe Mellon and Hewlett.

[INTERPOSING VOICES]

And then come back and said, work it up some more, but they're sort of receptive.

LERMAN: Absolutely. He created the groundwork where we could go down there and talk to them. How should we shape a proposal? Because they already like the idea.

INTERVIEWER: Were you surprised that he was interested initially, or did it grab him right away?

LERMAN: It grabbed him quite quickly. I mean I think he saw this as just one of these really great things that could be a MIT signature event. There are rare things at times when a university has the opportunity to do something that is so unexpected and yet societally valuable, and he saw this is as a real moment in time to do that. And of course, he was absolutely correct.

The other thing, I had a lab interested in educational technology. CECI, Center for Educational Computing Initiatives-- which you talked about earlier --so we could incubate the project there. So we actually made CECI the initial home for OpenCourseWare. We recruited our first staff and I was the chair of what was called the Interim Management Board, which ran the project. And part of our job was to find a full time executive director, and then it became a free standing entity. And the management board became an advisory board, a faculty advisory board, which I chaired up until a few weeks ago, actually.

INTERVIEWER: As you look back at the proposal that you wrote to take out to the foundations to vote on, what about it was right and were there any things that you didn't quite get?

LERMAN: It was interesting. A lot of it what was right, he but some of it was a self-fulfilling prophecy. So we laid out a budget. And it turned out, in fact, the actual organization was able to do better than that budget, so it expended less. We laid out a schedule for how many course materials could get published each year. How much could an organization actually convert to digital form. And every one of those milestones got met.

But I think it wasn't so much we were great at predicting as we set out these milestones and then the organization that people led-- originally by Anne Margulies, and later by Cecilia Dolivera-- they viewed that as their targets, and they managed to that target. Rather than us being pressured into knowing, well that's exactly how many courses an organization could publish each year.

INTERVIEWER: And were they good targets? Were they low or high?

LERMAN: They were very aggressive targets, but they were incredibly good at managing to them, and we never missed a target. We being the OCW organization. Every single target that got set got met on time, on budget. Many of them under budget.

We didn't even try to make predictions on how many people would go to the OpenCourseWare website. We didn't overestimate the number of teachers who wanted to use it. What we underestimated was the number of self learners. So almost half of all people who go to OpenCourseWare, when we survey them, tell us that they are not students, they're not registered anywhere, they're there for self-learning. And I think that was a bit surprising, that so many people would want to use the materials in that way. You may have been here when Bill Gates came. And Bill Gates is an OpenCourseWare user. He loves Don Sadaway's 3.091 lectures and Walter Lewin's 8.01 and 8.02 lectures.

INTERVIEWER: But he also chose not to fund it gather. And I had heard that it was partly because he didn't see this as sustainable. That after you put the money in the first time, there are questions about how you keep going if it's free.

LERMAN: And he was legitimately correct. I mean we're still working on sustainability. We've got a sustainability study that we did. There are numbers of ideas in the pipeline. It is still the case that, it's one of those things where you have a public good, which is these course materials, without a private gain to off-set the cost. So there's lots of people who benefit, but there's no obvious way to gather together their benefits into dollars and cents. And so if everyone who visited the course were to pay a couple pennies each time they did, you could pay for the whole thing. But that's not a practical model. We're still thinking through.

INTERVIEWER: Because?

LERMAN: Micropayments are hard internationally. The mechanisms still aren't perfect. There's a lot of collection costs. And frankly, even at low cost it isn't the spirit of what we set out to do. Would you price it differentially in poor countries and rich countries? It gets very complicated. And I think most fundamentally, it's not what we set out to do, which was: free is free.

INTERVIEWER: Do you put a cup by the side that says, anyone who wants to contribute may?

LERMAN: If you go to the website there is a Give Now button.

INTERVIEWER: How much does that collect? **LERMAN:** I don't remember the numbers. Substantial numbers of people give.

INTERVIEWER: Order of magnitude? Thousands? Millions?

LERMAN: Thousands. Tens of thousands each year. And we do a drive each year we mail. People who sign up for the newsletter, which is purely voluntary, get a solicitation. And that's tens of thousands of people.

INTERVIEWER: And the thinking now in terms of how to maybe make it self-supporting?

LERMAN: I think there's two directions, and they're not mutually exclusive. So I think we're quite comfortable with what I would call the PBS-style sponsorship. So this web page brought you by: As opposed to product advertising, which is you know, buy Tide detergent. So very comfortable with this web page brought you by Proctor and Gamble. Less comfortable is, Choose Tide, it's better than Cheer.

So I think we're comfortable with that and we need to figure out how to market that, basically, and get more companies committed to that as a useful model. I think the second is-- a more controversial area that we need to build a consensus around its desirability --which would be certificate-based programs. Value added. The materials would always be free, but the idea that you might get coaching, advice, certification exams that you completed that course-- not course credit, necessarily --that use the OCW course where content is a platform, I think is also where I think some of the larger revenue generation possibilities are. But we're not there yet.

INTERVIEWER: Another proposal that came up I think during your second stint as faculty chair was to change the Institute requirements for undergraduates. And curriculum questions are clearly an important faculty prerogative. Tell us what happened there, and did you have a gut feeling about what you would have liked to see if you could have waved a wand?

LERMAN: Well, if I could have waved a wand I would have had the resolution approved. So I thought the task force that worked on this did an excellent job. In particular, the first round task force I think did a very good job. Probably needed to have that work fine tuned. There was a second round that basically took the task force recommendations, and then modify them I think to reflect some practical realities, as well as things they heard from the faculty.

INTERVIEWER: But the gist of the direction that people wanted to move or that somebody wanted to move was what?

LERMAN: I think there were several directions. First of all, there was a desire to restructure the Humanities, Arts, and Social Sciences requirement. Which ultimately we did do as a separate resolution. I think there was also an interest, a strong interest, in creating a set a freshman level offerings that are sort of the big topic offerings. Thematic offerings in which more substantial cohorts, 100 or 200 students, would have a shared experience in humanities, arts, and social sciences.

On the engineering science end, I think that was a lot of interest in giving a little more flexibility. The idea, for example, that there might be multiple versions-- more than exist now --in physics that had direct involvement with faculty who were not physicists, but that was what we called flavored, thematic. So you know, based on foundational physics, but then with a little bit of focus perhaps on, take an example, on mechanical engineering applications, or heat transfer. So that you could choose and still get the same physics content, but get a bit of a flavoring of some other field, be it social science or--

INTERVIEWER: No physics for poets, though.

LERMAN: No physics for poets. Nobody, nobody at MIT was interested in that. I think there was an interesting question over whether students should have an additional-- all students should take you know 1803 or equivalent or 1805. Either linear algebra or differential equations. As a practical matter, all engineering students pretty much do take one of those most, many take both. Should that be part of the general requirements more broadly? Interesting question. Should students get an exposure to probability, to statistics? Which I think is another whole area.

The good news is the faculty really cared about these questions. So for me, as chair of the faculty even though I disagreed with some of them, I was heartened by the fact people passionately cared about undergraduate education and curriculum. That's a good thing independent of whether I agree with the decision. And I'll never regret that conversation that went on; those conversations and faculty meetings.

Ultimately a majority actually voted for the resolution that would have changed it, but changes in the rules of the faculty, which this would be, require a super majority, 60 percent. And we did not get a majority. And so the resolution failed. And I voted for it, to be honest. And I thought in the net it was an improvement and it was worth doing. Many of the ideas are getting adopted anyway. So, as I said, the humanities thing got separated out. The School of Humanities and Deb Fitzgerald's leadership did a fantastic job-- arts and social sciences. Embracing this idea saying, you know what? Even though the Faculty didn't approve the whole thing, we actually think it's better. And she, through our leadership, managed to create some momentum and we brought it to the Faculty floor. And we've improved it, and I think that is an improvement for the students.

Some of the other things are happening more experimentally. So we are creating these themed undergraduate humanities, arts and social sciences at the freshman level experiences. There is experimentation with physics versions that engage in areas like energy. But it's not happening as a general Institute requirement. It's just happening more organically.

INTERVIEWER: When you get proposals to make changes like these, do you get the impression that there's any difference in support or lack of support depending on whether the faculty members had been undergraduates at MIT or not?

LERMAN: I think there's an inherent conservatism upon those-- and I guess I would be the exception to that --but those faculty who grew up in the MIT system tend to value it very highly. And some of that's understandable. And some of it is an innate conservatism. Some even wanted to wind back to the old requirements.

But the truth is students are different. In fact, my own view, faculty can't constantly be engaged in replicating themselves. Which is sort of the, if you always do things the way they were, nothing ever changes. And some modest level of change is necessary at times. You don't want to change everything haphazardly. I view these set of changes as rather modest in the big scheme of things, and an improvement in the right direction. But reasonable people who I respect disagreed.

INTERVIEWER: You were tapped to become dean for graduate students in 2007, I guess as you were finishing up your second faculty chair. Then the title changed to become dean for graduate education a year later. And then the vice-chancellorship was and ended. What were the biggest problems in graduate education that you faced when you moved into these roles? And did you have an agenda when you took that position?

LERMAN: Well, we quickly evolved one. So I relaunched the strategic planning process within the office of the dean for graduate education, which is what we call it now-- then it was the Office of Graduate Students. And I think we identified four key strategic areas that we want to work on together.

The first is diversity. So there is a tremendous desire to increase the diversity, both in gender and racial ethnic diversity of our undergraduate students. And it had been essentially flat for a long time. So how do we ramp up our ability to recruit a more diverse graduate population. We've enormous success at the undergraduate level. It hasn't always been mirrored in the graduate population.

The second area is financial support. I believe that students do better when, particularly doctoral students, when they have the flexibility of the fellowship in that first year. Not every student, not every situation. We don't have enough fellowships. So how do we fundraise and get departments to fundraise for more fellowships?

The third area is graduate community. Graduate students want a sense of community. Our previous model was, all they needed was a lab, and they don't need to feel part of something larger. I don't believe that's true of today's graduate students. They not only want that intensive lab research group experience, they want to be part of a larger community. The Sloan students want to talk to the engineering students and learn about them. The engineering students want to learn about what's going on in the sciences. They want that. And how do we build a community in which that happens a lot?

And then the fourth area was simply process oriented. Just the day to day blocking and tackling of petitioning and approvals and you know, advising. And just the process that goes on inside an office. And how can we make that more efficient?

And so we focused on those four themes. And then something sort of came up and we launched the first graduate dental plan. We increased the number of matriculating under-represented minority students by about 45 percent in over a two year period. We were able to increase the number fellowships-- largely because there was fund raising mostly in the departments and the schools. So more students are on fellowship first year.

We were able to do a bunch of things around those four themes by staying pretty focused on them. It hasn't been so much retrenchment in those goals, but the financial crisis that sort of came up upon us very quickly made some of those things harder to do and slowed the progress, certainly on the area of fellowships. We've had to reduce the number of presidential fellowships. Fortunately, we've been able to get other types of fellowships, mostly to off-set that, but we haven't been able to grow it as fast as we wished, because of financial issues. But overall, we were able to get a bunch of those things done in a fairly short amount of time by picking those thematic areas. And frankly I knew a lot about graduate education coming in. And that I think helped get a quick start.

INTERVIEWER: Did the fact that President Hockfield had been a dean of graduate education at Yale give you any special resonance there? Does she give ideas, is she supportive?

LERMAN: Well, she's supportive, absolutely. But I think it's a mixed blessing, right? So sometimes having a president who knows a lot about your particular business. She asks hard questions about it and sometimes disagrees, whereas many college presidents, eh, it's to graduate education. They've got a dean, let him do what he wants. And she tends to be much more hands on in that area because she knows an incredible amount about it. In talking about trying to give graduate students some of breadth, or life beyond the walls of their lab, how does your faculty feel about that?

INTERVIEWER: Do any of them view the pulls of the outside as being not so useful for their students moving forward and completing their work?

LERMAN: It's a mixed bag. Some faculty either don't want, or certainly don't encourage, but also create demands in the lab that preclude students from doing other things. Others are very receptive to it. They want to see the students as whole human beings. It's really a mixed bag. And at the dean levels, it's not like being a department head where you can actually sort of channel faculty individually. There's too many of them. Being the dean for graduate education all you can do is lead by example. You can have conversation. You can encourage department heads to understand that students have broad interests.

You can also look to some of the benefits. More and more of the interesting work is cross-disciplinary. And you can't get cross-disciplinary work if the students or so narrowly stove-piped into a single lab. One of the things we introduced and got the faculty to approve, is, and it sounds like an odd concept, but it's basically a pass, no record version for graduate students. So seniors and juniors could take a course pass/fail basically, or pass/D/fail. And the graduate students came to us and said, you know if it's out of our department and not part of our degree requirements, sometimes we'd like to take the course. But if we have to take it for a grade and it's outside of our discipline, we're not going to do well in that course unless we spend enormous amounts of time, and the whole idea was to take it for breadth. So they said, could we take a course and just get pass/D or F, or just pass/fail. If it didn't count toward our degree requirements, so the credits don't count, but we want it on our transcript for breadth. And we managed to get that approved.

INTERVIEWER: Are any of them using it?

LERMAN: Yeah, a fair number.

INTERVIEWER: What do they take most? Anything?

LERMAN: They'll take foreign languages. Or a student in the physical side or mechanical engineering will take a biochem course. Where they're competing with people getting their doctorates in biochem, and it's really very hard to get an A in that course. Some of them will even take an advanced undergraduate course. And again, it doesn't count towards the graduate degree so that's fine. But they're able to take the course, do the assignments, get on a transcript, but be comfortable with the fact that they're not going to get an A in it.

INTERVIEWER: So in less than two months you're going to take up residence at George Washington University. What convinced you to take that position and leave MIT after all these years. You've said a little about it along the way.

LERMAN: I didn't plan it. I had never gone out. Occasionally, like most faculty at MIT who had got some senior administrative role, you get approached by search firms and others and I've always said, not interested. Thank you. And you know, very polite about it. The search firm running the GW search, and I can't remember how the conversation went, but she was very persuasive, just go down and look. That there was something interesting going on there, and wasn't a commitment. Send in your resume and then got to what they call, the airport interview stage, when they invite a fair number, large number of people in for a one day, you know it's actually just 45 minutes with a search committee and a then 20 minutes with the president, sort of visit.

And I, for whatever complicated reason, thought this might be worth looking at. And I went down and I got sort of hooked on the idea. It was an opportunity to exercise things I had learned. I couldn't have done it had I not been given the opportunities at MIT that we've talked about. And in particular, becoming dean for graduate education and vice-chancellor-- I have to thank the senior leadership --gave me an opportunity to become involved in administrative decision at the more senior level. Exposing me to things that I had not yet done. I got to go to portions of an executive committee trustees meeting. I got to do things that and become aware of, I'm actually fascinated by governance, and by university administration and leadership.

And GW has a relatively new president, Steve Knapp, who I think has incredibly good vision for the university, where he wants to take it. It's a very different place than MIT. Its center of gravity, of course, is the College of Arts and Sciences. The humanities are very strong there. Engineering is good, but small. It's got professional schools.

And one of the things I realized is, if I stayed at MIT-- I certainly feel like I could continue to contribute --but I wouldn't learn a lot more. I'd certainly learned things, always do. But I knew a lot about this place and not a lot about what a place that's so different would be. And yet many of the approaches and ways I'd worked on problem solving seem to be useful there. But applied differently. And I really want to try that out.

And each stage interviewing I became much more excited, though I have to say, even at the first round they had me. I would have gone there. I mean I was just so excited about it. But each time I went, I got more excited about it. And ultimately decided this stage in my life-- which is the right window of time --wait too long and time passes you by.

I mean there's no official age discrimination, but if you look at who's being hired for provosts, not a lot of 60-somethings. A lot of 50-somethings.

INTERVIEWER: So have you had long conversations with the provost here?

LERMAN: Yes, who was been incredibly supportive and gracious. Susan Hockfield has just been an incredibly good mentor about this. I mean she talked about what it means to leave a place and go to a different place after you've been in the first place for a long time. She's been very, very helpful and insightful.

INTERVIEWER: And her advice was or her bottom line is, it's do-able?

LERMAN: That it's do-able, but one has to be very deliberate about re-acquiring a network of relationships that let you know what's going on. One of the things you have when you're in a place a very long time is you have people to tell you what's happening. You know who to call. You know who to contact, even though they may not be on the org chart. You know those things. And you know the senior faculty you can bring into committees because you just have that. And of course, when you go to a new place you've got to rebuild that. And you have to be very deliberate about it. And she was very helpful in helping me.

INTERVIEWER: Are you going to bring your pancake spatula with you?

LERMAN: We are. We're going to live on their second campus, the Mount Vernon campus, which isn't in Mount Vernon. It's the campus of what was Mount Vernon College, and GW bought it when it went under. And we will live in what had been the president's house there right on the campus. And we've promised what we'll do is for the students divide-- they have about 800 students living there-- what we'll do is have pancake breakfasts for sub-groupings of them over the year.

INTERVIEWER: Well, good luck. I hope it's a wonderful experience and lots interesting things and fun and meet new people, and thank you very much for making the time to talk today.

LERMAN: OK, it's been my pleasure. Thank you.