

## MIT 150 | Lawrence S. Bacow '72

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INTERVIEWER: Today is October 31, 2008. I'm Karen Arenson for the MIT sesquicentennial Oral History project, talking with Lawrence Bacow, former chancellor of MIT and now president of Tufts University. Larry, thank you for talking to us.

Let's go back in time. How did you know about MIT and how did you get there?

BACOW: I grew up in Pontiac, Michigan. Probably like a lot of other MIT kids, I was a math, science kid from the time I was about this big. I was a ham radio operator at the age of eight. I used to enter science fairs. And MIT was this mythical place where the smartest people in the world went. And I used to read about it in *Scientific American*, *Popular Science*, anything I could get my hands on. And for as long as I can remember, I wanted to go to MIT. There was no other place.

INTERVIEWER: Were either of your parents in science or technology, or anyone else you knew?

BACOW: No. My dad was also a ham radio operator. The interesting thing is, I didn't want to be a scientist or an engineer. When I came to MIT, I thought I wanted to be a lawyer, but I wanted to go to MIT. And in fact, I had never met an MIT graduate until I went for my interview with a member of the Educational Council in Detroit. And I'd never seen the MIT campus until after I got in.

INTERVIEWER: What were your impressions of MIT when you did arrive in 1969, I think, from Michigan?

BACOW: Well, I remember driving up to the campus, and there was a big protest going on at 77 Mass Ave. It was a sign of the times. And I remember the MIT police were there, and there were a bunch of students with bullhorns, and there was a lot of chanting that was going on. And I remember my father, who was a lawyer, turning to me and saying, "If you get arrested, don't call home."

INTERVIEWER: [LAUGHTER] Did it put you off?

BACOW: No. I mean, it was 1969. And I guess it was what was going on on every college campus. But I'd led a pretty sheltered life, coming from Pontiac, Michigan. So I didn't quite know what to expect. But I think, like a lot of other kids, when I got to MIT, for the first time I felt like I was at home. It was okay to be smart. It was okay to get excited about stuff which other people thought was nerdy. It was an amazing experience for me. Amazing.

INTERVIEWER: And did you think you were going to major in science or engineering and then go into law, or did you have any clue?

BACOW: I thought I was going to major in math. I remember, it was only after I took analysis that I realized there was a difference between being good at math and being a mathematician. I was good at math. And so I was looking around, and I remember there was a guy in my fraternity named Jeff Handler. And Jeff was an economics major, and he said, "Why don't you take an economics course?" And so I did, and I loved it.

INTERVIEWER: And that was freshman year.

BACOW: That was freshman year. Although I actually took the economics course freshman year, and then I took analysis first semester sophomore year. So I was taking math and economics at the same time.

INTERVIEWER: So what was your MIT experience like as a student? How did you navigate through the place-- with help from your fraternity brothers, I think? But, did you party a lot? Did you work all the time? Did you...

BACOW: My MIT life was defined, really, by a couple of things. I was on the sailing team, and I spent more time sailing than doing practically anything else, other than studying. And I was fortunate in that my roommates from my fraternity were far more studious than I was. In fact, I was sort of the slacker in the group.

And it was a pretty remarkable group, because there were five of us who lived together on and off. And when we all graduated, it was the first year that I think MIT had a Phi Beta Kappa chapter, and I think there were somewhere between 25 and 30 people who were inducted, and we were five of them. So, they all pushed me, and would come in and turn the TV off when I was watching the Bruins. I was a big hockey fan. And they'd say, "Larry, do you realize you have two problem sets and a paper due tomorrow?" So they were like mother hens.

INTERVIEWER: What made you decide to join a fraternity? You had the choice when you came in.

BACOW: It was pure serendipity. I got off the airplane at Logan, and I was trying to figure out how to get to MIT on my own. And I saw somebody with a sign that said MIT. And he was in a fraternity, and he said, "Would you like a ride?" And I said yes. And the rest is history.

INTERVIEWER: He took you to that fraternity that you ended up joining, or...

BACOW: No, he took me, as the rules dictated, to register at Stratton. And then I remember having a temporary room in Baker House. You know, we were all assigned temporary housing. And his name was Steve Sondheim-- um, Steve Sondheimer, excuse me Steve Sondheimer. He's an OB/GYN in Philadelphia. Absolutely. And it was all because of Steve that I wound up joining a fraternity. He called me back and he said, "I'm a member of a fraternity. Would you like to come see it?" And I had nothing better to do, so I said, "Sure." And I wound up joining ZBT because I happened to bump into Steve Sondheimer at Logan Airport.

INTERVIEWER: So talk more about your progression through the Institute. You kept sailing. You studied hard --

BACOW: I kept sailing. I studied hard. Like most of us, my career was a series of fortuitous accidents.

One of my roommates was also an economics major, who took the same courses. And about midway through spring of his junior year, he announced he was going to graduate a year early, to save a year's tuition. I realized, gee, I'd taken the same courses as Alan. If he can do it, so can I. And so I did. And at that point, it was too late to apply to graduate school, to law school. I hadn't taken the LSAT. And I was trying to figure out what to do, so I went to my undergraduate mentor, who was Bob Solow. I'd taken a course with Bob my sophomore year, asked him a question at the end of class. He invited me back to his office, and I wound up doing a reading course with him second semester my sophomore year, which was just an amazing experience.

Bob tried to persuade me to stick around and get a PhD in economics. The reason I didn't was because, if I'd done that, I wanted to be Bob Solow, and I didn't think I was smart enough to do that. And I really wanted to go to law school; he tried to persuade me not to do it.

But I needed something to do, so he told me about a new program that had started a couple of years earlier at the Kennedy School at Harvard. I think what happened is that Bob picked up the phone and called Tom Schelling, who became one of my graduate school mentors, and said, "Take this kid." And so that's how I wound up at the Kennedy School.

I had a magnificent experience as an undergraduate at MIT. I got a phenomenal education, I met amazing classmates, I spent a lot of time sailing, and was taken seriously by one of the great minds in economics, great scholars of all time at MIT, one of the great human beings. And that changed my life.

INTERVIEWER: You've talked about one thing that guarantees that a student will have a good experience, and look back on it as a good experience, as relating closely to some professors while they're there, to the extent that they'll stay in touch with them for the rest of their lives. And you've certainly stayed in touch with Bob Solow. Were the people you knew having experiences like that? You talked about how close you were and how similar you were to some of your fraternity brothers, for example. You probably know other economics students. Were they all having experiences like that, or was there something unusual about your's, and what would make it so if it was?

BACOW: When I think about my roommates, each of them had a similar experience, as it turns out. I can tell you with which professor. Alan Tipermas was very close to Harvey Sapolsky. Alan Spoon was very close with Lou Menand.

INTERVIEWER: Those are both in political science, yes?

BACOW: Yeah. Alan Detsky was very close with Jerry Rothenberg, and then Bob Solow, as well, in economics. I had three roommates all named Alan. We had this wonderful experience. It took me a while when I joined the faculty to realize that not every MIT student had that experience, and it sort of became a bit of a mission on my part; I wanted to make sure that my students had that experience. And then, when I became chair of the Faculty and chancellor, I kept trying to do things to make sure that happened.

INTERVIEWER: Do professors really have time to relate to each of their students that way, or to some of their students that way, and how many of them do you think do?

BACOW: One of the reasons why MIT is the very special place that it is, is that I think MIT faculty take undergraduate education phenomenally seriously. MIT is the ultimate meritocracy. And what I found interesting about it as an undergraduate is, I took a lot of graduate courses as an undergraduate. I took the graduate theory sequence in economics. And the faculty didn't care if I was an undergraduate or a graduate student. Nobody knew. All anybody cared about was, did you have a good idea? Sort of, best idea wins. That was MIT.

And so I think, because MIT undergraduates are as talented as they are, the faculty love to teach them. And it's one of the reasons why UROP is the great success that it is. I think that's a great opportunity for students to develop those kinds of close relationships with faculty. It's one of the reasons that faculty embrace UROP as they do. It's one of the reasons why you get some of the best, most prestigious faculty members at MIT teaching some of those most basic courses. Remember, Bob taught the intermediate Macro course, that's how I met him as a first semester sophomore. Henry Kendall used to teach the sophomore physics lab, Nobel Laureate in physics. Salvador Luria used to teach 7.01. That says everything about MIT.

INTERVIEWER: From that description, it sounds like the MIT student body should be a really happy group. And yet, if you look at the alumni surveys, or surveys done shortly after students graduate, or at the end of senior year, I'm not sure, they've come through this very tough rigorous period. And they're not such a happy group. It turns out they get happier later. How do you square those two images?

BACOW: MIT is a really hard place. There's no easy or soft path through MIT. There's no place for anybody to hide. And in fact, that's one of its strengths. I think institutions are like people. For most of us, our strengths are also mirror images of our weaknesses. This person is great because they're so focused; well, their limitation is that they're so focused. One of the things that makes MIT as unique and special as it is, is its intensity.

And also, it's a relatively homogeneous experience for undergraduates. I think that's its strength. When I say that, I don't mean to say that there's a lack of diversity in the curriculum, or there's a lack of diversity in the student body. But everybody at MIT has to pass through the same needle. The core curriculum. It is a way in which, for better or for worse, everybody gets measured. And that can be a humbling experience. I've often said that you hang around MIT long enough and eventually everybody feels stupid.

But it also is an experience that forces people to grow, and to understand that they're capable of doing more than they ever thought that they were capable of doing. I think the most valuable thing I got out of MIT as a student was the realization that there was no problem that was so difficult that if I didn't plug away at it long enough, eventually I'd make some progress.

I had an interesting experience as a first year graduate student at Harvard. I sat through a class, and I remember leaving the class, and my classmates were just in a tizzy. One of them said, "I didn't understand half of what was going on in there." I said, "Well, that's pretty good! You understood half." I said, "I just spent three years in college, in which my goal was to stay no more than three blackboards behind the professor." I didn't expect to understand things at the end of a class. You took your notes and you took your book and you took your problem sets, and you went back to your room and you sat there with your classmates. And that's when you really learned the course. So, MIT is a hard place. Art Smith used to say it was a praise-free zone, and I think he was right.

But having said that, you appreciate it in interesting ways once you leave. What's the old line? It takes ten years for nausea to turn to nostalgia for MIT undergraduates. And there's some truth to that.

INTERVIEWER: This Larry Bacow the student doesn't quite sound like the Larry Bacow your father wrote to the dean about. You sometimes have talked about how MIT, the dean's Office, asked parents to send them letters, of guidance, I guess. What did he say, and then, where was he right and where wasn't he right?

BACOW: I have the letter in my drawer. Would you like me to read it?

INTERVIEWER: So that's the letter.

BACOW: So this is the letter. It was addressed to Ken Wadleigh, who was dean of students back then. They used to write parents, asking for a letter describing their son or daughter, to be read by the student's adviser. I'll only read briefly from this.

"Larry gets enthused very rapidly, but, except for certain sports and a few girls, he tends to lose interest very quickly. He also tends to wait until the last minute to get things done. He appears to work better under pressure. He is also somewhat on the lazy side. However, his greatest fault is his tendency to worry too much. This may require a bit of watching on the part of his counselor. In short, we think that Larry will prove to be a good average MIT student: not the best, not the worst, but fairly well-adjusted and adept."

INTERVIEWER: But it doesn't sound like he captured you at MIT. Something happened. What was that?

BACOW: Like a lot of other kids, I grew at MIT. MIT made me better than I thought I could be. What was immensely influential in my life at MIT, beyond the faculty, were my fellow students. They would do things, and I would say, "Gee, they can do them, maybe I can do them, too." And that made me far better than I ever thought I could be. It raised my expectations for myself. I think that's one of the things MIT does for students.

INTERVIEWER: Interesting. You mentioned that when you first arrived at MIT, it was in the midst of a protest. It was a very turbulent time for the Institute and for society. Did that turbulence affect you at all, or did you somehow go through and ignore most of it?

BACOW: I think it really affected everybody. For example, I was in John Wulff's class that George Katsiaficas and Mike Alpert disrupted, for which they went to jail. I remember meeting Constantine Simonides for the first time, as we went to watch a protest at the Center for International Studies at the Hermann Building. I actually later saw a picture of that event. I can't find myself in it, but I can see Constantine and Paul Gray, and Jim Culliton, all there together, three people who would become good friends later in life for me.

And I remember being tear gassed in Harvard Square. I remember marching down Massachusetts Avenue in the great protest that started at Harvard, and then we all went to the Common, when Jerry Wiesner came out and led the MIT community. And as a university president today, I have just enormous respect for that gesture on Jerry's part, which I think said volumes about both who he was as a person, but also for an institution that would embrace that kind of openness on the part of its leader. And I went to Washington, drove all night through the night to go to the march on Washington after Kent State. My freshman year was when the student strike occurred and they suspended classes. So we were all affected.

INTERVIEWER: Do you think that going through this period affected your view of protest in society, and how universities ought to handle it when it comes to campus, and your thinking about this kind of division?

BACOW: I think that experience has affected me in quite profound ways. Today, in part because of the job that I now hold, I look back on those who led institutions at that time with just incredible respect. Howard Johnson has become a good friend, and I've had an opportunity to talk to Howard, to talk to Paul, before he passed away, to talk to Jim Culliton. Unfortunately, I never really got to know Jerry Wiesner. But, to talk to them about what it was like being a university leader and administrator, trying to hold the center, as Howard so eloquently put it in his book. And I think it affects the way I do my job today, and how I see the challenges. How I try to engage various constituencies that are the university around whatever the issue du jour happens to be. And no matter how bad things get, I know that I will never face the kinds of challenges which they faced during those times. I cannot imagine what it was like to be president of the Institute in 1969.

INTERVIEWER: And Howard and Paul look back with a great deal of pain. They still talk about how difficult a period it was. You've had some difficult periods yourself. Jumping ahead, you became president of Tufts in September, 2001, less than two weeks before the bombing of the Trade Center.

BACOW: Ten days.

INTERVIEWER: That must have been a difficult time. It wasn't an attack on you or the campus, but how did you think about handling that? How did you handle that?

BACOW: I remember distinctly, I was in my office. I was in a meeting, the meeting ended. I opened the door, I saw my assistant and she was ashen-faced. I asked her, "Elise, what's wrong?" She said, "We're under attack, turn on the TV." And turned on the TV in time to see the second plane fly into the Trade Center. And very quickly people were gathered in my office, because it has one of the few TVs in the building. And we were all watching with astonishment. And then I realized that everybody was looking at me, asking, what are we going to do? And I realized that I couldn't deal with my own emotions at the time, but rather I had to step up and lead.

I feel very, very fortunate that during my time at MIT, I had the opportunity to work with some really terrific leaders, both Paul and Howard, but especially Chuck Vest. And I recall how Chuck tended to handle difficult situations, and the way in which he would pull together people, and try and frame the important questions and encourage people to give him the benefit of their best advice. And he would ask probing questions and then, having listened to everybody, he would say, "Okay, this is what we're going to do." And in a lot of ways, on September 11, I just tried to be Chuck. I'm not sure I succeeded, but at least we got through it.

And one of the things which I also learned, not just from Chuck, but from Kathryn Willmore, was the importance of clear communications during a crisis. So I worked hard with everybody else to try and get a message out to the community immediately, about what was happening, what we were going to do, what we expected of others. I think I really drew heavily on my MIT experience.

INTERVIEWER: Of course, one big change now is that we have the internet and email and you can communicate. With violence at Virginia Tech and other campuses, they've been pushed to find even faster ways of reaching students. Has the ability to communicate that way changed the way campuses are run, and the way you think about leadership and communication?

BACOW: Well, what it's done is it's made every organization more porous. And it means that you are, as a result, responsible, if you will, to many, many more constituencies. And it's reduced the cycle time for response to each of those constituencies. So when an event like that happens, not only are you dealing with the students on campus and the faculty and staff on campus-- at Tufts, that's a community of roughly 14,000 people-- but you're dealing with parents off campus, you're dealing with alumni, you're dealing with others whose lives have been influenced by it. So sure, it changes, but in the end, it's still communication. To be able to communicate clearly and concisely and effectively is, I think, a skill which I actually learned at MIT.

INTERVIEWER: Were you aware that--

BACOW: I should add that I'm proud of the fact that I'm often complimented by people about my messages to the community. I make a point of telling people that I write them myself, and people sometimes ask me, "Where did you learn how to write that way?" And I always respond, "At a small New England technical school on the Charles River."

INTERVIEWER: In a class, or... I mean, people sometimes say that there hadn't been, or hasn't been, enough teaching of writing skills at MIT, and it's something they've tweaked again in recent years. Where and how did you learn... were your economics professors saying, "Write it again," or "Write it more concisely," or what, exactly, was the learning experience?

BACOW: I think I learned how to write from a number of people, some directly and some indirectly. Directly were the people who would critique what I was writing. I remember courses that I took from people. I took a course from Heather Lechtman. Heather was very good at giving comments on papers. Rob Engle was my undergraduate thesis adviser, who, like Bob Solow, went on to win a Nobel Prize. And Rob made me write multiple drafts. But also, one of the people who helped me with my writing indirectly was Bob Solow. Bob has always written with bell-like clarity, in a voice that was perfectly conversational and could express the most sophisticated ideas elegantly and simply. And what I've always tried to do was to emulate Bob, and to emulate my graduate school mentor, Tom Schelling who also wrote in a very similar style. So I think having had good teachers makes a difference.

INTERVIEWER: Schelling being another Nobel winner. You spent a brief period away...

BACOW: You mentioned Schelling. I've sometimes joked that I am the Forrest Gump of economics, because as an undergraduate, I worked pretty closely with Rob Engle, who won a Nobel Prize, and with Bob Solow. And then I went to Harvard, and as a first year graduate student I encountered Tom Schelling, and Mike Spence, who was my teaching fellow first year as a graduate student at Harvard. And of course, Mike went on to win the Nobel Prize as well. So, I've been very blessed to have great teachers.

INTERVIEWER: You went up the river to Harvard to do the public policy degree and the law degree. You earned your PhD. And you were thinking, at that point, of going to Washington, perhaps?

BACOW: Correct.

INTERVIEWER: But you came back to MIT. What was your thought process?

BACOW: What happened is that I was graduating from Harvard. I got my law degree in '76, and then my PhD, I really did the bulk of the work for my PhD the following year for my dissertation. I was almost done with it, but not quite. And I realized I was in the right place at the right time, and I started getting teaching offers. There were other institutions that were starting public policy programs that were modeled after Harvard's at the time, and they were looking for faculty. So I started thinking about doing some teaching. I'd been a teaching fellow in graduate school. And an opportunity came along to teach at MIT. A two- year, non-tenure-track, terminal appointment. I would have been filling in for somebody for two years.

I went back to Bob and asked him for advice, Bob Solow. He said, "The government will be there when you're ready to go work for it. It will always look good if you have spent a little bit of time as an MIT Faculty member." So it was a two- year appointment, and it lasted 24 years.

INTERVIEWER: Did it feel odd to come back to MIT as a professor, as a faculty member? Did you see it differently at that point, suddenly?

BACOW: It was exhilarating to come back to MIT as a faculty member. I placed the faculty, I think like most students, on such a pedestal. I felt a bit like an imposter when I did it. And you know, I was a 25- year- old assistant professor, and I looked even younger. And I was teaching in a department in which the bulk of the students were graduate students, and most of them were much older than I was. This was the Department of Urban Studies and Planning. So it took awhile to get my bearings, and find my way.

But again, one of the great things about MIT is that, in the end, all people care about is, can you do the work? I sort of found myself as a faculty member. I liked it, and I enjoyed the teaching. My department decided to create a tenure track position, I entered the search, I was picked, and then, as I said, I stayed 24 years.

INTERVIEWER: Your department was probably one of the lesser-known ones at MIT. With the majority of the students in engineering and science, far fewer students are in departments like the one you were in. Did you ever feel marginalized?

BACOW: Well, the Department of Urban Studies and Planning is lesser-known only within MIT. Within the larger world, it is far and away the most distinguished planning department, literally, anywhere. And so it occupies a position relative to its peers in the field not unlike any of the other great departments at MIT. But at MIT, it's a bit off the beaten path.

I never felt marginalized at MIT, in part because I was a product of MIT, I was an undergraduate at MIT, and I made a point of always teaching undergraduates, which I loved doing. And I taught them not just in my department, but at various times I taught environmental economics in the Economics Department, I taught a course with Debbie Stone in the Political Science Department on regulation. So I got around. And I also, when asked to serve, I agreed to serve on things like the IAP policy committee and stuff. And I enjoyed that; it gave me a connection with others at MIT. I never felt marginalized.

INTERVIEWER: You were somewhat entrepreneurial in your period as a faculty member. You started a new center that became quite well known. What prompted you to do that?

BACOW: I was drafted by my department chair. One day my department chair, Gary Hack, who later became dean of the School of Fine Arts at the University of Pennsylvania, asked me if I would work with an MIT alumnus, who also happened to be an MIT Corporation member-- that was Hank Spaulding-- to explore what MIT should be doing in the area of real estate. Hank was a graduate of Course 1. There were lots of civil engineers who would come through MIT who had gone on to do great things in the real estate business, Norman Leventhal, Ed Linde, Hank, lots of others. And Hank thought that this was a big area, a huge capital market that needed more scholarship and perhaps there was something we could do in the area of teaching.

So my dean asked me to work with him. I knew relatively little about the field, but my dean, John De Monchaux at the time, and Gary Hack, my department chair, said we'd like you to do this. I was an assistant professor, so I did it. I enjoyed it, and it led to something which I never could have anticipated.

INTERVIEWER: What did it lead to?

BACOW: It led to a proposal to create a new Master's program in real estate development. Which involved participation from faculty from the Sloan School, from the Civil Engineering Department, from the Economics Department, from the Architecture Department, from the Department of Urban Studies and Planning. And then Gary Hack asked me to shepherd this through the approval process, which is how I came to encounter faculty governance at MIT. And I think in some ways that is what ultimately led me to become chairman of the Faculty. I got to know a number of people...

INTERVIEWER: So when you talk about encountering faculty governance, at first it sounded like you were saying boy, it was a set of obstacles, but maybe it meant that you became familiar with it? What did you have in mind?

BACOW: Well, it gave me a chance to understand how it was that MIT created new programs, and what was the process for creating new programs. And who really controlled the curriculum, and how are decisions made, and how are resources allocated within MIT to support new initiatives. And so, through the process of creating the degree program and the center, and then raising the resources to support it, I learned an awful lot about MIT. And it also connected me to different parts of the Institute. We had faculty in four schools teaching in this program. The only school that was not represented was the School of Science.

INTERVIEWER: You talked about how, as a student, you'd look at some of your fellow students and say, gee, if they can do that, I can too, and that it raised your aspirations. As you were a faculty member, did you have that same kind of experience? Were your aspirations beginning to rise? Were you beginning to think, hmm, he went on to do this or she went on to do that, maybe I should be thinking?

BACOW: Not really. One of the wonderful things about being a faculty member is, you can pick and choose what problems you work on. And you do so because they are of interest to you. And I loved that. And I really worked pretty hard to avoid academic administration. I started the Center for Real Estate, I tried to get rid of it, to give it to somebody else as soon as I could. In fact, the first year graduating class was in 1985. I remember, it was through the creation of the Center that I met Paul Gray for the first time one-on-one; obviously, I knew who he was.

INTERVIEWER: He was president then.

BACOW: He was president then, and I had to go talk to him about it. Which is interesting. An aside: now I have students sometimes who say, "You know, here I've been at Tufts for three years and I've yet to meet the president." My response is, "I'd been an MIT faculty member for six years before I ever met the president."

It allowed me to get this program off the ground. But, as soon as the first class graduated in 1985, I went on my first sabbatical. And turned it over to somebody else, and went back to my teaching and research when I came back.

INTERVIEWER: Because you didn't like being an administrator, or because you didn't like real estate, or what about it made you say, time to go?

BACOW: I loved my teaching and I loved my scholarship. And I think being a faculty member is a fabulous job, and that's what I wanted to do. And so that's what I did. I viewed administration, as I think so many do at MIT, as service. And so, in fact, when the Center fell on hard times I came back and did another stint, and tried to help it out. But once it got stabilized, I turned it over to somebody else and went back to my teaching and scholarship. So my administrative career at MIT was relatively brief, and I was drafted for virtually every job that I ever had.

INTERVIEWER: So how did they finally pry you out of your nice faculty life? Was it becoming chairman of the Faculty? That was another job you weren't particularly campaigning for.

BACOW: No, in fact I was on sabbatical in Amsterdam, teaching in the Economics Department at the University of Amsterdam, trying to write a book on trade policy and the environment, when I got a phone call from Claude Canizares. And Claude was chairman of the nominations committee. In fact he had called and left a message with Adele, and so I called him back. And I thought, "They're going to ask me to serve on the undergraduate committee or something like that." Maybe on the undergraduate program, CUP. And I called them back, and Claude said, "We would like you to be chairman of the Faculty." You could have knocked me over with a feather. I said, "Claude, are you sure? Me?" And he said yes.

I was dumbfounded for many reasons. One is, as we've already discussed, I came from a department which was a little bit off the beaten path. Although Bernie Frieden one of my colleagues, had been chairman of the Faculty a number of years before. I was relatively young. Most, but certainly not all, Faculty chairs had had a lot more grey hair than I did. And I remember calling Constantine and saying, "Constantine, should I do this?" And he said, "Of course you should do it."

And, candidly, I knew I was going to say yes. It's difficult to say no to your colleagues. To head the MIT Faculty is a singular honor. And it was also at a time when I thought that there were a set of issues that were before the faculty that I thought I might be able to be helpful with. So it was service. I have to say I loved being Faculty chair. I thought it was a wonderful job.

INTERVIEWER: Why? What about it?

BACOW: A number of things. One is that you have the world's biggest hunting license. You can literally stick your nose into any issue that you want, because you do represent the Faculty. And, like many others who had grown up at MIT, there were things about the Institute that, as a faculty member, I always thought, "Why do we do it that way? Life would be better if we did it slightly differently." And as chairman of the Faculty, I could actually do something about those things.

INTERVIEWER: Like what?

BACOW: Oh like all sorts of things. I remember, there were issues having to do with student life, which I cared about. There were issues that had to do with faculty life which I cared about. With the way in which we welcomed junior faculty members at MIT. A whole variety of things.

Also what I loved about being chairman of the Faculty is that I had wonderful colleagues. I loved my time on Academic Council, both times. I served on Academic Council as Faculty chair and when I became Chancellor. I don't think I've ever worked with a finer group of people than I worked with on Academic Council. I loved the collegiality about it. What I realized is that, as faculty, we tend to keep our noses down. We know the people who live in our neighborhoods. And by that I mean intellectually and geographically. So I knew the people at MIT who worked on similar problems to what I worked on, everybody who did environmental stuff. Wherever they were, I knew them. And I knew the people whose offices were in close proximity to mine. And it was an interesting group of people. For a year or two Millie Dresselhaus, Millie Dresselhaus's office was just right around the corner from mine, and Millie and I became friends because we would be there at odd hours. But as chair of the Faculty, I got to know people from throughout the Institute, in every nook and cranny of the Institute, every corner, and I love that.

INTERVIEWER: It was a two- year post?

BACOW: Yeah, it's one year as chair-elect and two years as chair. So Bob Jaffe was the chair when I became chair-elect, and Bob was a great mentor. And then I had the privilege of being mentor to my chair-elect, Lotte Bailyn. Great people. We all did the job differently, everybody brings a different skill set to the job. But I loved it. It also gave me a chance to work with Chuck and Joel Moses as well, as provost.

INTERVIEWER: And you said you came in thinking that there were at least a few issues that you had some ideas about, how change might be helpful. Student life. I mean, did you really think that as chairman of the Faculty you could affect student life, and what did you have in mind, and were you able to do anything?

BACOW: Sure. Well, Roz Williams and I teamed up and persuaded Chuck-- it didn't take much persuading-- that there should be a task force on student life and learning, for example.

INTERVIEWER: Roz was then dean of...

BACOW: Well, we called it dean of... it was odd, so, the Office of the Dean for Students and Undergraduate Education. Actually, when I became chancellor, I split the two.

INTERVIEWER: So you helped set in motion this committee.

BACOW: Roz and I were co-conspirators. And Roz really was the driving force behind the creation of that task force. But as Faculty chair, I got behind it. And Bob Jaffe raised a really good question. He said, there have been lots of faculty committees created over the years to study the undergraduate experience, the undergraduate curriculum, student life, and with a few exceptions, many of them had gone nowhere. So Bob said, "why don't we do something radical? Why don't we have a committee to take a look at why these other committees had failed?" And as Faculty chair-elect, he asked me to chair that. So we did a study, and basically recommended a different way of doing business. And that became really the modus operandi for the Task Force on Student Life and Learning.

INTERVIEWER: And you said another thing on your mind was how faculty were welcomed to the Institute. Were you able to do something on that?

BACOW: Together with Joel Moses, who was the provost at the time, we took a fresh look at how we welcomed new faculty, the new faculty orientation. I remember when I became a faculty member, somebody said, here's your ID, here are the courses that you're going to teach, here's where you go to get an athletic card, and welcome to MIT. And it's evolved greatly since then. I think all for the better. Lots of people had a hand in it. But it was an issue which I cared about. So I made a point of greeting new faculty, bringing them together in a variety of contexts.

One of the things which I also enjoyed was, the chair of the Faculty sits in on Corporation meetings. And I thought Corporation members needed to get a better sense of what faculty do on a day-to-day basis. So as Faculty chair, I invited Corporation members to come a couple of hours early to each Corporation meeting. And I would invite a half a dozen faculty members, and just ask them to bring their calendars with them, and to talk about what they did the previous day from the time they got up in the morning to the time they went to bed at night. To give Corporation members a better sense of what faculty do on a day-to-day basis. Otherwise, there's a tendency to say, "Well, you teach one or two courses a semester, at most. Maybe five hours of teaching a week. What do you do with the rest of your time?" I enjoyed that.

INTERVIEWER: So you had access, or you became part of the, you say, Academic Council, which is a small group that the president meets with weekly.

BACOW: President chairs Academic Council meets weekly for two hours. Tuesdays, 10 to 12.

INTERVIEWER: So that's a dozen people or so?

BACOW: No, it's all the deans, the vice presidents, the provost, the associate provosts, the head of the libraries, secretary of the Corporation. I'm probably forgetting a few people, at least.

But we used to meet in the engineering conference room. It was lively conversation about virtually every issue at MIT.

INTERVIEWER: Were there surprises? I mean, were there problems you hadn't been aware of, or anything else that suddenly you had this front row seat as well as being a participant? That you were seeing the Institute in a different light, even though you'd been there so many years?

BACOW: Of course one of the things that's unusual about MIT, and I didn't appreciate it until I came to Tufts, was the degree to which everything is centralized. And as a result of that, we take certain things for granted. We take for granted that there's one academic calendar. That there's one unitary faculty at MIT. That to a first approximation, at least when I left it was only with the exception of the Sloan School, there was one tuition at MIT. We took for granted that the educational opportunity was equally open to undergraduate and graduate students, and students regardless of department. If you met the prerequisites, you could take a course. You were an MIT student, as opposed to exclusively being a student in one school or one department. And as a result of that, if you sit on Academic Council, you get a window literally on every issue that comes before MIT.

The other treat was being a member of the tenure and promotion subcommittee of Academic Council. If you're an Academic Council member and with professor in your title, you read literally every tenure and promotion case that comes before the Institute. And I found that to be an intellectual feast. You get a window on the most interesting cutting-edge research in literally every discipline that's represented at MIT. I loved that.

INTERVIEWER: Did you find that there were problems you hadn't been aware of? In other words, I wonder if as faculty or students, are in a way sheltered from the complexity of the difficulties institutions face, and that maybe becoming part of Academic Council and/or the Corporation suddenly opened your eyes to anything you really hadn't been aware of so much?

BACOW: Well certainly. When you're a faculty member, your focus by definition is reasonably narrow. And when I became Faculty chair, I started thinking about all sorts of issues. Like faculty renewal. I became chair at a time in which mandatory retirement for tenured faculty was being eliminated as a result of federal policy change. And so that caused us to reflect on this issue, of retirement and the life cycle of a faculty member. And we did some extensive surveys, and one of the things which we learned was that attitudes towards retirement and work were very different, and differed by discipline. And also differed if you took a look at the experimentalists versus theorists, versus humanists, for example.

So, I learned a lot there. I learned a lot about the culture of different disciplines and departments, and how that varied. For example, tenure and promotion letters in the Math Department are exceedingly short-- one or two paragraphs, often. "This person proved the following theorem, which had been a conjecture for 300 years. It is worthy of tenure." Versus the style of letters in fields that are intellectually much messier, and as a result there's much greater nuance and far less convergence of opinion. I learned a lot about the different styles of graduate education and support across the Institute. And how students who are in the life sciences had different experiences from students who are in the social sciences versus students in the humanities, versus professional students, whether or not they were Sloan students, or architecture students, or professional engineering students.

There was lots that I learned. I learned a tremendous amount from Chuck, just about the role of federal policy, and how that influenced the operations and economics of the Institute. So my eyes were opened to lots of things in higher education. A lot of discussion about the composition of the class, and intentional policy decisions that we were making that affected who we would admit, and how that would shape the class. Financial aid policy. It was a wonderful education in higher education administration.

INTERVIEWER: So you were chairman of the Faculty in the mid-'90s. What were the big issues facing MIT, the problems that Chuck Vest and his administration had to grapple with?

BACOW: Probably the biggest issue, at the time that I was chair of the Faculty, was MIT was trying to cut a significant portion of its operating costs through re-engineering. And, candidly, re-engineering at the time alienated the faculty. It stressed the administration on a day-to-day basis, the people on whose backs the place really operated. And I think it was a difficult period for MIT. It did not go well. And one of the jobs of chairman of the Faculty is to tell the president when the president is about to step in it. And I did; I saw that as my role. And to Chuck's credit, Chuck always wanted to hear the truth, and to hear it unvarnished. And he gave me... I know as president now, it's difficult to hear news that you want to wanna hear, but the people who tell you that news are often your friends. Paul Gray used to have a great joke about that. Ask him about his Russian peasant joke.

INTERVIEWER: You're not going to tell us?

BACOW: I can't tell it as good as Paul tells it.

INTERVIEWER: Were there other serious issues or problems?

BACOW: Another major issue at that time was that the federal government was cutting back on its support for basic research. It was doing so in a variety of ways, both directly and indirectly. And at the time, the Institute was experiencing a number of financial stresses, in part because indirect cost recovery was down. There were a number of changes to A-21, the OMB circular that governs indirect cost recovery, that affected us quite dramatically. Part of the push for re-engineering was, in fact, to adjust to those changes.

INTERVIEWER: Did you feel that you wore two hats? On the one hand that you were there to say to Chuck, "The faculty believe this, they're not going to like this, this isn't the right way to go about it." But did you also feel any responsibility to go back to the faculty and say, "Hey look, we're in a tough spot," and to try to sell Chuck's program, or to explain why he was doing things? Or was that his job?

BACOW: Well, I think one of the unique aspects of MIT that separates it from much of the rest of American higher education, is that traditionally we've not drawn sharp distinctions between faculty and administration. Here I am, I've been gone for over seven years and I'm still saying "we." Old habits die hard. And so the people who've served in the position of Faculty chair have been honest brokers on behalf of the faculty. And to be a broker, you have to be willing to work in both directions. The way I use a particular metaphor which I think is good in describing it, part of one's job as Faculty chair is to ensure that there's a good impedance match between the faculty and the administration. And so, I worked hard at that; Chuck worked hard at that. It was both of our jobs. It was not in the faculty's interest, nor was it the administration's interest, to see that we were not in resonance.

INTERVIEWER: As you drew to the end of the two years of your term, what were your feelings about going back to being a full time faculty member? Were you looking forward to it completely, or were you sort of sad to step out? And how did you then get yanked back into the administration?

BACOW: I think everybody who serves on Academic Council comes to appreciate it as a collegial body. And I think it's difficult for everyone to leave it. And it wasn't easy for me to leave it; I wasn't aspiring to anything else. I had worked really, really hard to avoid being department chair of my department or a dean. And it succeeded. And the Faculty chair's role is limited in time, and I knew that going in. So I was expecting to go back to the faculty, and I was looking forward to going back to the faculty. That said, I did miss Academic Council, and my colleagues on it. You can't help but miss such a terrific group of people.

But I went back, and I took on a new challenge. David Marks and I, we started something called the Center for Environmental Initiatives, which served to coordinate a whole series of environmental initiatives and activities at MIT. I worked with David and Dan Roos in helping to establish a major partnership between Ford Motor Company and MIT. So that was fun, and I had a ball doing those things.

INTERVIEWER: And that lasted how long?

BACOW: It basically lasted a year. Because what happened is that Joel stepped down, and Chuck went looking for a provost. And he found one in Bob Brown. But he decided that he wanted two people, basically, to take over the provost responsibilities, and so he asked me to come into the administration, as well. He encouraged Bob and I to think about how we might share the responsibilities of the provost job. And Bob and I went off and had a bagel together in Inman Square, and came back to Chuck with a proposal, which Chuck tweaked, and hence was born the chancellor's job.

INTERVIEWER: Did you think there really was a need for two people, or did you worry about there not really being a job there? How did you think about it?

BACOW: No, I actually thought that there was a need for more than one person at the time. MIT was undergoing enormous change, and, again, because of the degree of centralization, the provost's office had become the Von Neumann bottleneck, and the rate limiting step on everything. And so it required, I think, some creative thinking, so that we could move more stuff through the system, and not bog things down. Because I had seen from the faculty side, that the faculty were getting frustrated because stuff was not moving quickly enough (at least to satisfy the interests of the faculty). And I think Chuck recognized that. And he did something which, I now appreciate as a president was quite risky, in appointing both Bob and me at the time as provost and chancellor.

INTERVIEWER: And why was that risky?

BACOW: I think it was risky because it was not obvious how you split the responsibilities. It was not obvious that Bob and I could work side by side together without getting in each other's way. It was not obvious that people wouldn't try and play one off against the other. One of the things which I think Bob and I were both really, really proud about is that the two of us, in three years, never had to go to Chuck and say, "Chuck, please referee this dispute." Never happened once. Nobody ever succeeded in playing one off against the other. Bob and I would have our differences. We would resolve them behind closed doors, and then we would go out and say, "Here's how it's going to be." And Bob was a wonderful colleague.

And as I thought more about it, one of the things which I realized was good about the division of responsibility of having two people in that role, is that for the first time in the Institute's history, the provost actually had a colleague. The provost, in the past, had a boss, the president, and the provost had direct reports. But the provost really had no one who he-- I'd like to say she, but I don't think there's been a female provost in the Institute's history-- could sit down and bounce ideas off of, in a way that was open and honest, and not have to worry about setting off rumors. One of the difficulties of these positions is that you're not allowed to think out loud. You have to be very cautious about what you say, and that's not always healthy.

INTERVIEWER: How did you split the job? I mean, what kind of arrangement did you come up with?

BACOW: Well, we did it at the S and S deli. And it wasn't all that difficult. Bob and I had worked together previously, because Bob was dean of engineering when I was chairman of the Faculty. We knew each other. We had great respect for each other. We brought vastly different skill sets to the enterprise. I had been an MIT undergraduate. I knew the undergraduate experience well. As chair of the Faculty, I had worked across the Institute in a whole variety of different contexts. And so what we decided is that, if you think of MIT as a matrix organization, Bob basically took responsibility for the columns, the five schools. And the deans of the five schools reported to Bob. And I took responsibility for the rows, those activities which cut across the schools. So, undergraduate education, graduate education, space, strategic planning, large scale institutional partnerships, a variety of things like that. And the scarce resources in any budget are money and space and slots, and so what we agreed is that we would be partners in those, but each of us would take principal responsibility for one of them. Bob had principal responsibility for the budget; I had principal responsibility for space. You couldn't get anything done without both, so that was a natural check and balance. Other things we just worked out between the two of us.

INTERVIEWER: Allocating space sounds like the kind of pedestrian activity, almost a pain in the neck, that isn't going to win you a lot of friends, maybe a few. It seems like it's actually sort of complex, as well as thankless. How important is it, and why is it so important, and what did you do with it?

BACOW: We used to call space The Last Frontier at MIT. Again, MIT was very centrally organized and managed, so if somebody wanted 100 additional square feet of lab space, they had to come to CRSP, and the chair of CRSP, which had been the provost.

INTERVIEWER: CRSP being...

BACOW: The Committee for the Responsibility for Space Planning, I think it was formally called. We always called it CRSP, I can't even remember the acronym at this point. And the provost chaired it. And CRSP had not operated transparently in the past. And everything appeared to be a deal, to a first approximation. It wasn't rational, and it was far from clear that we were allocating space in ways which reinforced our highest academic priorities. So when I took it over, I approached it with an economist's mentality. And I tried to rationalize the process by which we did it, tried to make it more transparent, tried to push some of the responsibility back down to deans, and to get them to prioritize the space requests that came from the academic units. And we created a real budget for it, and a real budget process by which we allocated the space. And it didn't eliminate space wars, but it at least made it clear to everybody how we were going about doing things, and I think a more predictable process, as well. And I think it's very important, because for many, many important initiatives, the binding constraint was not money; it was space. And so it was important that we be able to allocate it efficiently.

INTERVIEWER: It's interesting that when Nancy Hopkins, the biologist, later raised her charges about there having been discrimination on the basis of gender, one of the key pieces of evidence was space. Do you think making the process more transparent, if in fact you feel like you were able to do that, had anything to do with it?

BACOW: Well, Nancy, actually, was onto this issue well before I became chancellor. In fact, I first met Nancy one of my first days as chair of the Faculty, when she came to me with this issue. And so we talked about it then. I think that one of the things which we did, as part of the process of reforming CRSP, was to actually establish some standards for space, in terms of what the standard office or laboratory ought to look like. And we made everything a little bit less ad hoc, and I think that was healthy.

The other major initiative which I took on as chancellor was responding to the need to rethink residential life at MIT following the death of Scott Krueger. And you'd have to ask Chuck this, but I think one of the reasons why he drew me into the administration was because I was an MIT undergraduate, because I was a member of a fraternity, because I had been active in my fraternity even as a faculty member-- I had been an alumni trustee. And it was a system which I understood. And so when Bob and I talked about dividing up responsibilities, one of the logical things was for me to take that on.

INTERVIEWER: That was a fairly acrimonious debate, process. Can you talk a little about...

BACOW: I was hung in effigy. A little town outside of Cleveland. It was acrimonious. One of the distinctive characteristics of MIT, as I alluded to previously, was its intensity, or is its intensity. And the passion that people bring to the Institute. Nowhere do you see this more than in residential life. And here, once again, MIT is completely idiosyncratic relative to the rest of American higher education, in terms of how it welcomed freshman, how it determined where they would live. And then it was also idiosyncratic with respect to the stability of those decisions that got made in the first three or four days that a student set foot on the MIT campus. As I said earlier, I bumped into Steve Sondheim, and that is why I wound up at ZBT, and I lived there for the rest of my MIT career. So any changes to that system, which was an enormously stable equilibrium, required a large energy level to disrupt that equilibrium, to bring it to a new equilibrium. And it was the death of Scott Krueger that actually forced that.

INTERVIEWER: Had the decision already been made to bring all freshmen onto campus for their first year residential life by the time you were chosen as chancellor?

BACOW: No.

INTERVIEWER: No. So that was still up in the air, what to do?

BACOW: Very much up in the air. One of the first jobs that I inherited as chancellor was to manage the legal team that was representing MIT in the grand jury investigation that had been convened by the district attorney, Ralph Martin, following the death of Scott Krueger. And Chuck was called before the grand jury, Roz Williams was called before the grand jury, a number of people were called before it, and warned that they were potential targets of a grand jury.

Nothing had been decided, at that point. And as we worked through the process of figuring out what was best for MIT, as we resisted the pressure of others from the outside-- some of it came from the Boston Globe, some of it came from the grand jury, not the grand jury but the district attorney, and other public officials, every one of whom seemed to think that they knew what was best for MIT-- we were sorting out, in our own mind, what represented the right process for integrating freshman into academic life. As a faculty member years earlier, even though I was a product of the fraternity system, I had argued that MIT would be a better place if all freshmen lived on campus.

INTERVIEWER: Why?

BACOW: Because I had seen a number of my own students who had gone through an experience where their first exposure to MIT had been rejection. Where they came as freshmen, they were on campus for less than a week and were told, "We don't want you to live here." And not just in the fraternity system, but also in the dormitory system. Because what had evolved since I had been an undergraduate was dorm rush, where dorms decided who would live in individual dorms, floors, and entries. And so it was a system which, I think, was not welcoming. It was a system which I experienced as a parent, of an entering freshmen, and saw it through different eyes. It was a system, remember, before the days of cell phones, in which parents would drop their kids off at school into a first approximation, and not be able to reach them for three or four days, or longer, until students acquired a permanent living place. It was enormously expensive for students, for faculty, who had to come back far earlier than they would have otherwise. It was a system which caused the Institute to manage a huge amount of uncertainty in its residential housing stock, because it never knew how many students it was going to have to house for any given class, until it could see how successful fraternity rush was. This was, I thought, a system that was far from optimal, and thought was far from optimal for students.

What had also changed, and that had led me to believe that it should change, well before Scott Krueger arrived, was the arrival of women on campus in large numbers. There were, I think, 50 or 60 women in my class, in 1969. They all lived in McCormick. By the time we were talking about changing the housing system, over 40 percent of the students were women. Women had a vastly different experience in terms of rush and orientation than men did. And so we had a system which was designed, not for the MIT of that time, but for an MIT of 20 years previous. It wasn't working, I thought, but it was a very stable system, and one which people clung to.

INTERVIEWER: I wonder, had the new system been in place, one where all the freshmen lived in dorms on campus, whether you would have had the same serendipity, the same nurturing, "These are my four closest buddies, five closest buddies." And to look at them as role models, and whether you would have gone...

BACOW: I now have something to compare it to. Because I know a vastly different system. And we have students at Tufts who develop friendships which are every bit as deep and meaningful to them as I did at MIT. And we have attachments to the university that are every bit as deep and powerful as MIT alumni have to MIT and to their living groups. So it is not the only way. And it always struck me as odd that MIT thought that they could not learn from how others did things. Again, I referenced earlier that for most of us, our strengths are also our weaknesses. One of MIT's strengths has always been its willingness to march to its own drummer. But I think at times that can be blinding, in the sense that MIT can still learn from other institutions. And I thought that there were better ways to welcome people to Institute life.

INTERVIEWER: I think I was surprised, at one point, to learn that classmates in fraternities, that the fraternities had what they called "Bibles" of notes for classes and exams, and that some of their older, upperclassmen kind of rode herd on the underclassmen to make sure they were working and studying and helping. And that there was a kind of enforced guidance, maybe a substitute paternalism, that I'm not aware of having a counterpart in the dormitories. I think, students in the dorms, there were always helpful people around, but there wasn't the same oversight and feeling of responsibility. I don't know how widespread systems like that were in the fraternities, or whether it was only a handful, but I'm not sure that's replicated.

BACOW: Well, I think that there are advantages to each system. You have students who've gone through the fraternity system, like I did, and had fabulous experiences. You also have students who have less than fabulous experiences. And the same holds true with the dormitories at MIT. I don't think you can generalize and say one experience is, in fact, unique.

I also think that life for many students changed in the fraternities when women came to MIT in large numbers. It's a historical accident that the bulk of the MIT fraternities are located in Back Bay. It dates from when the Institute was located in Copley Square. And, when I was an undergraduate, one reason to live in a fraternity was that the women were all located across the river. That changed when 40 to 45 percent of the student body were members of the opposite sex and were living on campus. And so I think that the system needed to adapt.

INTERVIEWER: Some of the alumni who had had good experiences like you had were very angry after the change was put in place. And some of them threatened to stop giving. Do you think that... even though you've been away from MIT now for some time, do you have any sense of whether that's died down, and whether incoming freshmen simply know it this way, and so they accept it? Has that kind of become the norm, and the hurt feelings have dissipated or...

BACOW: You know, one of the things which I did when I left MIT, was to leave MIT. And so, in part because my life is here, and I have to focus on what goes on at Tufts, and in leading Tufts, I haven't stayed as engaged as an alumnus. And so, I'm probably not the best person to ask about how it has evolved over time. So I would hesitate to speculate.

INTERVIEWER: You spent three years as chancellor before being recruited to come to Tufts. Were there other significant aspects of your job that you thought were special, that you particularly loved or really hated?

BACOW: I don't think there was anything that I hated. There were times that were difficult. I remember when we announced the decision that freshmen would live on campus. I was receiving emails, because I was the point person at the time, at the rate of about sixty a minute, one per second, for what seemed like days. I didn't think that there were that many alumni who cared about this issue. I mean, it obviously petered out a little bit. I would I try to respond to every one of them at the time. That was hard. But I thought it was necessary, to engage people.

But I loved my job. I especially loved going and speaking to alumni on behalf of the Institute. I loved welcoming entering freshmen. I loved being able to speak on behalf of the Institute. There were special moments, certainly many of them. My first year as chancellor, Chuck asked me to coordinate a visit of Zhu Rongji, the Prime Minister of China, to MIT. I remember, my first year, getting a phone call from Gordon Brown, the chancellor of the exchequer, now Prime Minister of Britain, saying he wanted to talk to me about something. That led eventually to the creation of the Cambridge - MIT Institute, a partnership between Cambridge University and MIT.

I loved my job. It was a wonderful job, and I think it was excellent preparation for what I now do for a living.

INTERVIEWER: MIT is very different from other universities. Was being a top official there useful in preparing you for your presidency here at Tufts? Were there gaps in that education you received for leadership?

BACOW: At the risk of sounding immodest, I think I was very well prepared to be president, and I think MIT does a terrific job of preparing people to be leaders in higher education, in part because it's so centralized. Because of the structure of MIT, if you're in a position like the provost or the chancellor-- I mean, Alice Gast was the vice president for research, Bob Birgeneau was the dean of science-- you get to see virtually every major issue that comes before a university. And so it's outstanding preparation.

Also, MIT is a place that does just about everything very, very well. I mean, incredibly high standards at the Institute, not just for the students and faculty-- the staff at MIT are first rate, in every place that you look. And so you get used to working with first rate people. And the Institute tends to be very advanced in its thinking about a whole host of issues.

Now, that said, MIT is idiosyncratic. It is upside down from the rest of the world in a lot of ways. If you take a look at Tufts and MIT, for example, I was an economics major at MIT. Economics, at the undergraduate level was a very small department. At Tufts, economics is, every year, second or third largest major at the university. When I was an undergraduate, if I told people I was majoring in economics, the response was usually, "You weren't good enough to do physics?" Nobody would ever suggest that at a place like this. And this is more like most places.

The culture of MIT is unique, in part, because it is so heavily dominated by engineering. It's an engineering-driven culture, not a science-driven culture, an engineering-driven culture. I came to really embrace that, and think that that was wonderful. Engineers see problems and they say, "Great, there's a problem, let's go solve it." There is a premium placed on elegant solutions, ones that are different from the way in which people have done things in the past. Engineers are not ideological; they are data-driven. And I think that that speaks to the strengths of MIT. Other places are very, very different, and they have very different cultures. Tufts is more like the rest of the world than it is MIT. That took some getting used to, for me.

INTERVIEWER: So you're an MIT undergraduate, an MIT professor, chairman of the MIT Faculty, chancellor, your wife, Adele, earned a Master's degree there, your older son graduated from there. What went through your mind when you were recruited by Tufts and you began to think of cutting this umbilical cord?

BACOW: Are you nuts? I never expected to leave MIT. I didn't aspire to be chancellor, I didn't aspire to do anything other than what I was doing. It's a tough place to leave. I mean, leaving MIT was the hardest thing I ever did in my life. It was brutal. I remember when Tufts came and asked me if I would talk to them, and I said no a couple of times. Bob Brown and I used to joke, because if you have the title provost or chancellor of MIT, you get called on virtually every presidential search. And there were a lot that were going on during our terms as provost and chancellor, and we'd both get the calls. So I'd say, "Bob, have you heard from Princeton yet?" And, "Did Columbia talk to you? Or try to talk to you?" And we both said no, and I kept saying no. And I said no to Tufts twice.

And then I started to think about it a little bit, and I talked to Chuck. Because I didn't think I wanted to be a president. And Chuck said, "Well, if you're going to talk to them, be careful, because," he said, "I think the fit is close to perfect, and you could find that you could wake up one day and they've offered you the job, and you're president." He said, "Beware of vortex, you'll get sucked in." I talked to Paul, I asked Paul for advice. He said, "Well, you know, it never hurts to just get a sense what it's like. You may decide it's not for you, but you can have a conversation with them. But don't have a conversation with them as a candidate."

So I talked to the the search committee initially not as a candidate. I said, I'm interested in just learning a little bit more. John Issacson was doing the search. I'd employed John to do searches for a number of people at MIT: the dean of admissions, the dean of students, a variety of other positions. So, you know, I talked to the committee, it was interesting, I went back and I talked to them again, and before I knew it, Chuck was absolutely right, as he was about most things. They said "we'd like you to be president." It's like, whew! What am I doing here? And I said yes, and then there was about a ten day period before my appointment was announced, and I came close to pulling a Phil Sharp and saying, I made a mistake.

INTERVIEWER: That was an overnight change of mind, after he'd been announced.

BACOW: Right, Phil, the appointment had already been announced.

During that ten- day period I wasn't sleeping, I wasn't eating, it was very difficult. Nobody knew at MIT, other than a very small handful of folks. But I decided, I was 24- years- old-- I was 49 years old, excuse me, I was 49 years old, and I'd been at MIT as faculty for 24 years. One more year and it was going to be half my life, and there are times when you need to take risks and get repotted. It was the best thing that I ever did in coming here, but it was excruciating leaving.

The day I actually walked out of my office, the movers had come and packed up all my boxes earlier. And I just had this stuff that I was going to take from my desk. I packed it up in a box, and my secretary, Elise Renoni, had a second box. And we walked down the stairs in Building 3, to the parking lot, to my car, for the last time, and I had tears streaming down my cheeks. It was very difficult.

INTERVIEWER: How have you shaped your agenda at Tufts, and how has it been influenced by your experience at MIT, and where have you felt the need to diverge and reinvent and do things differently?

BACOW: Well, the goal in coming to Tufts was to make Tufts a better Tufts, not to make it into MIT. A lot of people actually were suspicious of me when I came in, thought I wanted to turn Tufts into MIT. My response was, if I wanted to be at a place like MIT, I was at a pretty good facsimile of one before. I didn't need to come here for that.

So the challenges here were very, very different from the challenges at MIT. MIT is fortunate that it doesn't do everything, but everything that it does, it does exceptionally well. Joel Moses was fond of saying that one of the reasons why academic departments are as strong as they are at MIT is that MIT has no small departments. It's difficult to sustain excellence without scale. At Tufts, we have a lot of small departments. We have scale, in many cases, but it's distributed across seven schools and three campuses. That required me to think hard about, how do you knit the schools together? Not a problem at MIT. How do you get the institution to act as one, as opposed to seven small fiefdoms, each going off in separate directions? How do you get it to speak more with one voice, while at the same time preserving the kind of creativity that comes with different academic units still being relatively independent?

A big challenge here was engaging our alumni, raising resources. One of the things which I learned from Chuck and Barbara Stowe was how to ask somebody for major a gift. I was fortunate that I participated at MIT in a planning process for a major campaign. I knew what went into a campaign; I had to do that here. A lot of things which we did at MIT, I just stole them and did them here. One of the first things which I did in coming to Tufts was to create a task force on the undergraduate experience, which in some ways followed the task force in student life and learning at MIT, just as a way of learning what the agenda needed to be going forward here.

So there were some similarities, there were also some significant differences. I was candidly energized by the differences.

INTERVIEWER: How does one ask for a major gift? You get down on one knee?

BACOW: No. One of the things which I learned from Chuck is that if you want to raise a billion dollars, you need a billion dollars worth of ideas. So part of the challenge and task is to engage the faculty in coming up with those ideas. And then, as president, giving voice to them. And engaging donors, and helping them understand what the opportunity space looks like, and to get them to try and recognize that they have a chance, through their own philanthropy, to make a difference. And to get them to, well, as I like to say, to get them to adopt your problems as their problems, and to then want to help you solve them. If you do it right, you actually don't ask for the major gift; the donor offers, and starts talking about how they can help make a difference.

INTERVIEWER: One gift to Tufts that's come during your tenure was the \$100 million from Tufts alumnus Pierre Omidyar.

BACOW: Omidyar.

INTERVIEWER: Omidyar.

BACOW: And Pam, his wife.

INTERVIEWER: The founder of eBay and his wife, Pamela, to be. But it was structured in a very interesting way. It was to be invested in organizations that make small loans to poor people. What was your first reaction when he described it, if that's how it came about, and how is it working?

BACOW: Well, \$100 million gifts don't just drop into your lap, although MIT had one from Kenan Sahin. I'll never forget that moment. This was the result of a lengthy conversation with Pierre and Pam.

It's an unusual gift for many reasons. First, the \$100 million all came at once. Actually it was \$100 million of eBay stock, which they gave us on November 2. We had two weeks to liquidate the position and we were out of it by November 9. This is three years ago. We sold into a rising market and netted \$104.2 million, so it was a good trade. Second, the gift was all for endowment. Third, the income on the gift was unrestricted to the university. And fourth, the only restriction on this gift was how the principal was invested: in support of institutions making small loans to poor people in developing countries.

Now, it's actually evolved a little bit. Microfinance is a little bit broader than making small loans. The way we really define it is, how to provide financial services to the unbanked in the developing world. It's a full range of financial services. And, initially when Pierre started to talk to me about the idea, I needed to learn a lot more. And I did, and the more I learned about it the more interested I was in the concept. Then Pierre and I went to work together with Pam and crafted a gift agreement. Then I went to my board, and I said, "Guess what? Here's what I'd like to do." The board was very sophisticated, as are most boards. And it took a little bit of understanding on their part, but they came to embrace it. And it's turned out to be an extraordinarily successful investment.

INTERVIEWER: Has it been insulated from the market shocks of the past couple of months any more than the rest of the portfolios?

BACOW: It's certainly added diversity and diversification to our portfolio. It's in fact the brightest star in the endowment right now. And we're not yet talking publicly about the performance, but I'm absolutely delighted with the performance.

INTERVIEWER: Another one of the initiatives at Tufts that's attracted wide attention have been changes to the admissions process, and bringing in a new dean from Yale who had a certain kind of expertise. Can you talk a little about what that involved, and how that's going?

BACOW: Sure. We recruited Bob Sternberg from Yale to be dean of arts and sciences. Bob is one of the foremost psychologists of this or any other generation. And one of the areas that he's done an enormous amount of work in is the psychology of leadership, and what really represents the skills necessary to be a leader. And there are a number of different attributes to it, different kinds of intelligence. There's analytic intelligence, which is what we typically focus on when we admit students to college, measured largely in terms of grades and SATs. But then there's also wisdom, judgment, creativity, and the ability to sort of synthesize large amounts of information. And so, with Bob's assistance, we've tried to do what I think is a very interesting experiment in admissions, by consciously looking for ways to assess these other aspects that determine whether or not people are likely to be successful in life. And it's still too early in the experiment to draw firm conclusions, but the early returns are very promising.

INTERVIEWER: Is this transforming all of the students you're taking in, or is this something you're doing for 5 percent of the entering freshmen, or how are you handling it?

BACOW: The first year we did a pilot program with a relatively small number of students. Now it's open to the entire class. We have a series of optional questions which students answer, which are designed to give us insight into their creativity, wisdom, and judgment. And so, we are assessing that information, and we find that a significant proportion of our applicant pool, well over half, responds to these questions. That in itself is interesting, because it helps us discriminate those students who are particularly interested in Tufts, versus all others. So it's a measure of the intensity of preferences.

INTERVIEWER: Because they can't just do the common application. They have to put in extra effort.

BACOW: Right. And these particular questions are unlike anything that they're being asked anywhere else.

INTERVIEWER: Such as? I mean, do any come to mind?

BACOW: Well, a question designed to elicit creativity might be to write an essay with the title, "The End of MTV." A question which we used a few years back, designed to give us insight into wisdom and judgment, is: it's your first day of school. And you arrive, and you're in a suite with three other people. And there are three rooms that are all the same size, and one that's much smaller. What's the process that you use to determine who goes where? What are the principles that guide you? No right answer, but, very interesting responses from people.

So those are the kinds of things which we ask. And what's very interesting for us is that, like most institutions, elite institutions, there's compression at the right tail of the distribution for grades and SATs. The real question is how do you discriminate among students, all of whom, to a first approximation, look very, very similar? And this gives us insight, which, by the way, tends to be orthogonal with respect to other data, as well as other characteristics of students. So it really adds information to the decision.

INTERVIEWER: Do you think it's something MIT could or should pick up on? Would it work there?

BACOW: First we have to demonstrate that it works at Tufts. This is an experiment. I don't want to overstate my conclusions, or the preliminary results of this. They're not conclusions yet. We've been at this for three years. We need to follow it for much longer. But I think that, if it continues as it seems to, it could be useful to a variety of institutions. Every school does admissions differently. I read admissions folders for 24 years at MIT. It was fun and I enjoyed it.

INTERVIEWER: You can recite them in your sleep. After seven years away from MIT, is there anything about it that you recognize now, that you didn't quite recognize then because you were inside?

BACOW: I think, a fish doesn't know that it's in water until you take it out. And I think, to some extent, that was true of me at MIT. I knew that MIT was an extraordinary institution when I was there. I think I've come to appreciate it even more now that I'm not.

This is not a statement about Tufts. This is a great place and I love it. I'm very proud of what we're doing here. But MIT is, I think, unique among American higher education institutions because of its focus on science and technology, because of its intensity, because the rest of the world looks to MIT to solve certain problems. It truly is a national treasure. There are many great universities in the country, but there really is only one MIT, and I don't think I quite appreciated that when I was there in the way that I do now that I'm a bit distant from it.

INTERVIEWER: Despite the erosion in federal research dollars, some leading universities, including Harvard, Princeton, and Yale, have all mounted very serious efforts to expand their presence in science and engineering. They all have very deep pockets. And I think they mean to go at it in a serious way. What do you think this will mean for MIT? And will it become less unique, or un-unique?

BACOW: I don't think so. Because, notwithstanding the efforts of those three institutions and others to beef up their investment in science and engineering, they will never be science and engineering- centric the way MIT is. That is what makes MIT special, is that the culture is driven by engineering. And none of those institutions will ever be able to say that. As a result, I think that they will always attract a different kind of student than MIT does. They'll all attract a different kind of faculty member than MIT does. And they'll have a different orientation of the administration.

You asked me earlier whether or not I felt out of the mainstream by being a social scientist at MIT. By the way, I always used to tell people that I thought that arguably, MIT's two most distinguished departments relative to their peers were anywhere in the School of Humanities, Arts and Social Sciences. And they were economics and linguistics. It is at other institutions that scientists and engineers often feel that they are out of the mainstream. And the same way that I felt like I came home when I came to MIT as a student, I think that that's the role that science and engineering will always occupy at MIT.

INTERVIEWER: It's sometimes said that Harvard, for example, is better than MIT at producing leaders. Maybe partly because of who it chooses to admit, they may look harder for people who show a certain quality. You were an MIT undergraduate, you rose to chancellor of MIT, you're now leader of a major research university. How do you feel about this issue of MIT producing or training leaders?

BACOW: MIT has always produced leaders. It's produced a particular kind of leader that has been in short supply in American society. I think MIT will always continue to produce leaders. One of the great things that MIT does is that it has the capacity for self-criticism. And MIT adapts much more readily than most other institutions. And I would hope that over time, MIT would keep asking itself the question, "What kind of leaders does this nation, does the world, need?" I think it is doing that now. I think you see that in President Hockfield's initiative in energy, for example. And I would expect that MIT would continue to produce leaders of all kinds.

INTERVIEWER: In talking about leadership and leadership training, you've said that Chuck Vest has played a very important role as a mentor and exemplar for you. Can you talk a little about Chuck and his leadership style, and what you learned from him?

BACOW: I learned a tremendous amount from Chuck. He first of all is an extraordinarily decent human being. And that comes through with every interaction you have with him. And as a result, I think that all of us who had the privilege of working with him and for him would have run through brick walls for the guy. He's just a solid, decent person.

Chuck also had an unusual capacity to pluck people and put them into positions, and to see them grow. He was a very self confident leader in that respect. When I reflect back upon it, when I sat at Academic Council, looking into the future, there were three other presidents of major research universities sitting around the table when I was there. Bob Brown, and Bob Birgeneau, and of course myself. And then, prior to us, Mark Wrighton, and then Alice Gast. One of the last things I did before leaving MIT was to help Bob recruit Alice. In fact, I felt really guilty about it, because I took Alice out to lunch to try and seal the deal. We were recruiting her from Stanford, and I knew my appointment at Tufts was going to be announced a week later, but I couldn't say anything. So Chuck brought great people into the administration.

Chuck always did the right thing, and was willing to swim against the tide in order to do it. One of the most courageous decisions the man ever made was the Overlap suit. And he, I think, correctly understood that if MIT didn't stand for principle on the Overlap issue, that the entire face of American higher education could change, because of the way in which resources would be allocated for financial aid. And he was right.

INTERVIEWER: This was the federal antitrust lawsuit against the Ivy League and MIT suggesting that they were collaborating in an illicit way on financial aid decisions.

BACOW: There was a group called the Overlap Group. The name came from schools which had students who were overlapped in their admissions. An overlap is, if a student is applying to MIT, they're also applying to Harvard, Yale, Princeton, Stanford, Cal Tech, for example. And the Overlap Group would not get together and agree on how much financial aid they were going to give any of the overlapping students. What they did is, they got together and agreed, based upon the common financial information that was submitted by the student to all the schools, what the family's need was. Now different schools would offer more or less need, based upon what their own tuition was, they might package it differently, but at least they all agreed that, based upon the following data, this family had the capacity to contribute X to a student's education. And everybody would agree that nobody would ask them to contribute more than X or less than X. And what it did is that it ensured that financial aid was allocated based purely on the basis of need.

The government alleged that that was price fixing, and it filed a lawsuit under the anti-trust laws. And all of the other participating Overlap schools signed a consent decree. They did so under the threat of treble damages if they lost the lawsuit. Which raised the bar very, very high. And so every member of the Ivy League, Stanford, others, signed the consent decree. MIT, under Chuck's leadership, fought it, and said, this is wrong. This will have an adverse impact on the way financial aid is allocated. Chuck believed that aid would go, not to the neediest students, but would rather, through a process, migrate towards better off students, be allocated on the basis of merit, not need. And he was absolutely right. And that decision, I think, said volumes about Chuck.

The second decision was women in science. Chuck had every lawyer in town telling him you cannot admit error. Because what will happen is that people will come out of the woodwork, suing MIT, seeking damages for discrimination. And Chuck said, "But this is the data. This is what happened, and we should acknowledge it." And he did. And I think, in the process, earned the respect of just thousands and thousands of people, not just within MIT, but all of American higher education.

And the third indication, the third instance of that same decency, I think, was the way in which Chuck dealt with, in the end, the death of Scott Krueger-- in acknowledging responsibility. In a world in which so few people are willing to stand up and say, "We were wrong. We apologize. We accept responsibility. No excuses. We owed him better." Chuck was willing to say that.

So I learned a lot from him. About how to hire people. About always trying to do the right thing. About being open and transparent in communication. About being yourself. One of the great hesitations I had about taking on a job like this is I didn't think I looked or talked like a college president. I'm a pretty informal person. Chuck said, "Be yourself and you'll be just fine."

I've been fortunate throughout my career to have wonderful teachers and mentors. Chuck is one of them. And we're still in touch. I try and see him regularly. Today is Friday; on Monday I'll be in Washington, DC, and I'll be going to visit Chuck at the National Academy, just to talk.

INTERVIEWER: Some of the qualities that you describe as being quintessential Chuck also sound like they're quintessential MIT, that there was this fit. Can you talk a little about the special qualities and contributions? You talked a little about the uniqueness of MIT. Sort of what some of those are?

BACOW: The first thing that I think makes MIT special is that it's the purest form of meritocracy I've ever encountered. At MIT we didn't care what you looked like, we didn't care what you wore, we didn't care what color your hair was, we didn't care how old you were, where you were from, if you spoke with an accent. All anybody cared about at MIT was, could you do the work? Were you smart? I used to joke that the only students who had buildings that had the same last name as they did were students who were named seven, and thirteen, and nine. We didn't have generations who came to MIT, or legacies in the same way. So first, it was a pure meritocracy.

Second is, the intensity of MIT is unusual. And it also makes it special. I've never been in a place where people work harder. Paul Gray used to say, used to tell the joke, "Well, if you can't get your work done in 24 hours in a day, start working nights." This is also an Achilles heel of MIT. And Paul, in his inaugural address, identified pace and pressure was a problem, and admitted he never laid a hand on it.

When I was chair of the Faculty, we had a committee on family and work at MIT that I tried to resurrect a little bit. And I remember I used to play the following thought experiment with people. You wake up one day and you find out that there are eight days in the week. How do you spend the eighth day? If you ask somebody from MIT, they'd say, "I'll work." There's a ninth day. "I'll work." How many days do you have to add to the week before people start to take another day off? So that intensity makes MIT very unique. Not always healthy, but very, very unique.

MIT has the capacity to laugh at itself. At MIT, people take their work seriously, but they don't take themselves seriously. Fundamentally, it's a blue collar culture. You really have to look long and hard to find a pompous person at MIT. MIT is one place, we've discussed that. That also makes it, I think, very, very unique as an academic institution. And it gives it the capacity to tackle problems that would test lesser institutions. The most interesting intellectual challenges that we find in the world today are found no longer at the heart of disciplines, but at the edges of disciplines, at the intersections of disciplines. It's far easier at MIT to work across fields than it is at lots of other places. In part because engineers see problems, and they grab tools wherever they can find them. That is the culture, and even scientists and social scientists, and humanists, and designers, and artists appreciate that at MIT. So I think there are lots of different ways that make MIT unique. I could go on.

INTERVIEWER: How successful do you think it has been, in recent decades, in contributing to society?

BACOW: Oh, I think MIT remains profoundly influential in the world-- both in terms of the nature of the discoveries that occur routinely there, but also in the influence that MIT has on higher education worldwide. One of the things which was really interesting about being chancellor of MIT is, I had responsibility, among other things, for our large scale institutional partnerships, both industrial and international. A month did not go by during my three years at MIT in which I was not approached by a head of state or some other representative of a government, asking if we would create an MIT in X. The rest of the world understands the uniqueness of MIT and everybody would like to have one. One of the things which I would always tell them, with great humility, is that, as smart as we were at MIT, I didn't think we knew how to replicate it.

INTERVIEWER: If the rest of the world understands that, do you think the US does, and Congress, and Washington?

BACOW: Well I think, at some level, yes. When David Letterman talks about something being really hard to do-- you know, program your digital video recorder-- he will say that you need an MIT degree to do this. It's never a Stanford degree, it's never a Harvard degree, it's never a Caltech degree. If something is really hard, you need an MIT degree to do it. So at a visceral level, the answer is yes. I don't think it's surprising that the government is constantly turning to MIT to try and address, or tackle, really, really hard problems. That said, given the times that we live in, I think as a nation, we're probably under-investing in basic research.

INTERVIEWER: Chuck has talked about his recognition, when he became president, that MIT and other universities hadn't made the case for science research, among other things, in Washington, and he attempted to work on it. In the past year we've seen some leading congressmen, the Senate Finance Committee, go after university endowments, simply saying the size is too big, they charge too much to students. Why the disconnect? If MIT, for example, is making this contribution, why are they trying to say you're not spending enough? And why are some of the Massachusetts legislators saying maybe we should tax the endowment of MIT and other institutions?

BACOW: Fundamentally, Congress does not understand graduate education. The focus in almost every comment that you hear from an elected official regarding the wealth of institutions and the cost of higher education is focused almost exclusively on the sticker price for tuition that is charged undergraduate students. In fact, first of all, as we know, the discounted cost is much, much less. But beyond that, our legislators fundamentally do not understand the joint production function that exists between teaching and research at a research university, and that they go together. They don't understand that in some cases, one of the drivers of costs in the nation's leading research universities is the fact that government has dis-invested in the research enterprise, and the cost of the research infrastructure that exists on our campus does not go away, and has to be borne by something. It inevitably is borne by the instructional budget, and that tends to drive tuition up.

So I think that there's still much more work to be done. I think, if you talk to any president of any major research university in the nation during the time that Chuck was president of MIT, and he will tell you, they will tell you, that Chuck was a powerful advocate for research in Washington, DC. I think Susan has sort of picked up that torch and is running with it. And I think the nation now looks to the president of MIT, in ways that it didn't before Chuck, to make the case for science and engineering nationally. In that respect, Susan's probably got an even tougher job now because not only do you have to just run MIT, but you have to also try and get science and engineering policy, R and D policy, right for the nation. I think it's incumbent on many of the rest of us to try and help out.

INTERVIEWER: You seem to have picked up some of that mantle of responsibility, too, when the Secretary of Education, in the past couple of years, set up a commission to examine higher education. It was somewhat critical of what it found. You're one of the presidents who stepped up to say, "Hey wait a minute." Would you talk a little about your message to them, and what you were trying to convey?

BACOW: I was really trying to convey a couple of messages. The first is, we have a system of higher education in America. Four thousand institutions of higher education. They come in all shapes, sizes, flavors. We compete. We compete for students, we compete for faculty, we compete for resources, we compete for mind share, we compete for everything. That competition has led to innovation in American higher education. And so, each institution is different.

It has also led to competition in terms of where we are arrayed along a price continuum. You can get a terrific education for not a lot of money in this country. I grew up in Michigan-- wonderful public higher education system. Or you can go to an MIT or a Tufts, a very different kind of education. We don't force anybody to go anywhere. People get to make their own choices in the marketplace. As a president of an institution that's very expensive, I will tell you that I know how to make Tufts cheaper. The marketplace is not demanding it.

What do I mean by that? Well, we can make a Tufts education or an MIT education much cheaper. By having larger classes, by having less student - faculty contact, less hands on learning, less opportunities to engage undergraduates in research, simpler facilities. This is not what we are hearing from our students or their parents. In seven-plus years as president of this university, I've not had one parent come into my office, pound the table, or send me an email saying, "President Bacow, I want you to increase class size and lower my cost." It does not happen.

So competition in higher education tends to drive costs up, not down. So that's the first point that I made to them. And I said, but again, the net cost, when we net out financial aid and the tremendous investment that we've all made, has not really increased beyond the actual rate of inflation.

The second point that I wanted to make is that I think that we as a nation have sometimes focused too heavily on looking at higher education as purely an investment in job creation, and in creating an educated workforce for industry. Historically, higher education existed to educate citizens for a democracy. And I worry that we've lost sight of that. And it's sort of ironic, because at exactly the same time that this nation has been investing enormously in trying to make democracy work abroad, we have lost sight a little bit about the role that the nation's colleges and universities play in educating citizens. Not necessarily just equipping them to go into the labor force, but in teaching them about some of the enduring questions which we have always asked as citizens. In helping to understand some of the moral dilemmas, the ethical dilemmas which we as a nation confront, and have an enormous influence on the policies that we will someday craft and implement.

So those were my messages to the Spellings Commission. Don't think about us as an undifferentiated set. Recognize that competition produces innovation; one size fits all doesn't work. Understand that competition is driving cost. And recognize that our role is not just to prepare students for their jobs, but to prepare them to assume their role in society.

INTERVIEWER: Another question that's come up -- and it came up in the Spellings Commission, also -- is, are college students today at this vast range of institutions really being educated well, and how do we know it? In other words, for those who like accountability, how do you get it? How do we know that somebody who starts as a freshman, comes out as a senior, has really learned? I mean, we see the vast numbers of high school graduates who come out with high school diplomas but can't read well, don't know fractions. How do we know colleges are doing a better job, and that all colleges are doing a better job? Would we know if they aren't?

BACOW: Well, one simple answer is that we meet the test of the marketplace. Ask yourself, why would somebody spend \$50,000 to spend a year -- tuition, room, board, fees, everything else -- at a place like MIT or Tufts, if they didn't think that there was value that was coming from it? Nobody puts a gun to a student's head or their parent's head and says that you've got to purchase this educational outcome. Far from it. Why do the best, why do recruiters flock to the nation's best colleges and universities to recruit their graduates? Now, you could say we just select our students well, and that's all we do, and there's absolutely no value added beyond that.

INTERVIEWER: And they educate each other really well.

BACOW: Yeah, well, there is something to that. I always said, when I welcomed students at MIT, and I say it when I welcome students to Tufts, that they're going to learn as much from each other as they will from the faculty. But one of the great myths is that all you need is access to the content and you have access to the education. Not true. You can get educational content by going to the library, you can get it by going online. It is this special experience that comes from bringing students and faculty together. And, as I like to sometimes reference Brian...

INTERVIEWER: Hughes.

BACOW: Hughes. I heard it from Brian first. Saying, combine students and faculty under temperature and pressure for four years, you do get a catalytic reaction. And I think that's why people want to be at institutions like this. We don't say that this is the right place for everybody. But I do think there's value added.

Now that said, sure, we ought to be attentive to how we can do better. We ought to be attentive to where we can increase the marginal product of our investment in education. And we do, that's the innovation. You asked me earlier about our admissions process. We do a huge amount of analysis about what our students like, don't like, what they learn, what they don't learn. We talk to their employers, we talk to our alumni about their experience. And we're forever tinkering with it.

INTERVIEWER: So, if you were Education Czar, or Secretary of Education, perhaps.

BACOW: God forbid.

INTERVIEWER: What kind of higher education policy would you recommend for America?

BACOW: How much time do we have? [LAUGHTER] First of all, I think that the nation needs to be far more attentive to K through 12 education. I think most people would tell you that we do a much better job at higher education in America than we do at K through 12 education. I think there's a reason for that, actually. And that is, we've basically embraced the same model of independence and competition in K through 12 education as we have in higher education, in that, each school district is responsible for raising its own resources. Each school district is responsible for delivering a curriculum. Each school district is responsible for what that curriculum is. And no school, or very few school districts, truly have the resources in order to do that well. And so, they lack scale, they're subcritical in size, and we wind up with a K through 12 system which doesn't function nearly as well. And since you don't have mobility of students, the system suffers. In higher education, we have the same competition, you have the same disaggregation, but it produces a very different result, in part because people can move around, and resources can move around.

So, I would give some thought to that. Europe standardizes K through 12 education, and they standardize higher education. It works for K through 12; it doesn't work nearly as well in higher education. And so I think, if it were up to me, we would have a model of higher education which continued to be driven by innovation, competition in higher education. We'd have much greater standardization in K through 12 education, as you do in Europe and Asia and the rest of the world. Not to say that I want rote learning, far from it. Far from it. But I think that the notion that we turn each school district, local district loose and say, whatever you can afford, that's what you get. And if you lose the lottery and happen to live in a place which can't afford a very good public education system for K through 12, then you're going to be burdened for the rest of your life. I think that's sub-optimal as a society.

INTERVIEWER: I wonder, though, how much innovation has really gone on in higher ed? I think there've been a few examples of some significant changes-- things like OpenCourseWare that MIT pioneered with help from a couple of major foundations.

BACOW: By the way, Tufts provides the health sciences content from our medical school, dental school, and vet school to OpenCourseWare. We were an early partner.

INTERVIEWER: Yeah, but if you look for other really big changes... I mean, I think there's certainly more computer-assisted learning, there's distance education of various sorts. But if one looks, for example, at the creation of the new engineering college in this area, Olin, which is, I gather, a really different model in many ways. It's more different than most campuses. Do you think there has been significant innovation across the landscape? I mean, you're doing admissions here, but aren't those sort of more the exception than the rule, those innovations?

BACOW: Look, I could come back at you and I could say, look at different industries. Just because the product looks the same, does that mean that there has been innovation within it?

Take a car. We beat up on the automobile industry all the time. There's tremendous innovation that's gone into the creation of automobiles. Not just in terms of fuel efficiency, but there's a tremendous amount of electronics, there's a tremendous amount of engineering that's gone into making cars safer. Right? Cars are different. Yet they look the same. I mean, if you stand outside them, look, they still have four wheels. You know, they're still powered by internal combustion engines. Largely, not exclusively.

I think the same is true of higher education. There's been a lot of innovation. Yes, it still looks like you go for four years and you get a degree. But within that, there's different majors, different learning styles, there's been innovation in engaging undergraduates in research, there's been innovation in internship opportunities, there's been innovation in the degree to which graduate and professional education has been integrated with undergraduate education. All sorts of things that have taken place. So I'm not sure I would agree with your hypothesis that there hasn't been much.

INTERVIEWER: If you look at MIT as it was when you entered in 1969 and today, what are the biggest changes and what are the things that have stayed most constant?

BACOW: Well, the biggest change, I would say, is the fact that women constitute a significant proportion of the population of MIT at every level. Undergraduate students, graduate students, much more in the faculty, and now a woman president. Vice presidents. I think this is progress. I always say around here that no institution can claim to be truly world class if it is only sampling from a subset of the human capital that is available to it. So that's been one enormous difference.

A second difference, which I'm not sure if enough people paid attention to, is that the center of gravity of MIT has shifted from undergraduate to graduate education, between the time in which I was a student, and where it is today. When I entered the class, undergraduate class size was exactly what it is today, approximately 1000 per class. So we had 4000 undergraduates, and if memory serves me correctly, there were about 3000, maybe 4000 graduate students. But they were in approximate balance. Slightly more undergraduates than graduate students.

I know this because the balance shifted during the time in which I was a faculty member. In fact, it shifted in response to an economic signal sent by the then-provost John Deutch. One of John's great successes as provost was to persuade the Office of Naval Research, which was our government contractor for purposes of indirect cost recovery, to allow us to include tuition as a benefit -- tuition as part of indirect cost base, and a benefit for graduate education. What this effectively did is that it lowered the price of a graduate student to a faculty member. You did not have to include the tuition in your grant. It was covered by the benefits rate. And so faculty consumed more graduate students, and the size of the graduate population grew. That's a big shift for MIT, and, candidly, I'm not sure MIT has been thoughtful about that. It just sort of happened. We've never understood the consequences of it.

The other big change is that I think MIT has truly embraced tackling a set of problems that necessarily require the active participation of social scientists, if there's going to be progress made. And I'm thinking of energy and the environment. And I think that's also healthy.

And then the last point I would make is that I think that's another big change, and I think it's been a wonderful change, is the true flowering of the humanities and the arts at MIT. Jerry Wiesner started something, when he was provost, actually, continued it when he was president. And I think that that's had a wonderful impact on MIT.

INTERVIEWER: Some critics of higher education, including faculty sometimes, say that universities generally are becoming too corporatized. That it's all about fundraising and making deals with corporations and becoming too bureaucratic. Do you think that's the case, and that it's a problem? And is there a way to avoid it if it is, or to protect from the downside and keep the benefits?

BACOW: I think labels are easy to attach, and they seem scary to people who want to use them. I think universities, most universities, are far from corporate. I think there are things which we can learn from corporate America; there are things that corporate America could learn from us. I think that institutions generally have become more open largely as a result of technology, but our boundaries have become more porous, more permeable, and as a result of that, there's more idea exchange in all dimensions. I think that's healthy.

I think that there are certain enduring qualities of academic institutions that shouldn't change. Colleges and universities represent some of the oldest institutions in society. You really have to take a look, go back to a few city-states and the church to find institutions that are older in society than the oldest colleges and universities in the world. One of the reasons why they're so old is that they change slowly. And I think some of that is actually healthy.

INTERVIEWER: They certainly educate a much larger swathe of the population now than they did then.

BACOW: They do. They've become more open. For some people they're adapting too quickly; for others they're adapting too slowly. The point is that they adapt. And I think that their willingness to engage the world... We don't really hear about the ivory tower anymore, and I think some of that is healthy. But at the same time, universities still ought to be a place where people can pursue ideas for ideas' sake. I had this conversation when I was at MIT with a Corporation member, who was highly critical because they thought that we were not enough like corporate America. And I said, the reason that we were valuable to corporate America was that we were willing to invest in things and ideas that nobody in corporate America would support, and that was our value added. That was, in fact, our comparative advantage. And when we lost that, we ceased to be valuable to society.

INTERVIEWER: With the decline in research money from the federal government, do you think that's going to reverse, or do you think colleges and universities, research universities in particular, need to come up with a different paradigm, or a different means of supporting their work? And is that, in the end, deep pockets from individuals and corporations and foundations?

BACOW: There's not enough philanthropic and corporate support in the world, I think, to replace basic government investment in R and D. Just take a look at the magnitude of the NIH budget and the NSF budget, to say nothing of other governmental support. Whether or not it's coming from DOD or US Department of Agriculture, or the Department of Energy. So I think government will always be the principal driver of R and D expenditure in research universities-- it should. It will ebb and flow over time. I would hope that those of us who are in positions of responsibility will always be able to make the case that there's an incredible return to investments in research in institutions like ours.

INTERVIEWER: So you don't think there's necessarily just a secular decline, you think it's more of a sine wave or whatever.

BACOW: We'll see. Ask me in 25 years.

INTERVIEWER: So, 25 years. At one time you did think about heading for Washington and going into government. You ended up on a different track, with serendipity. Do you think maybe someday you'll end up down there?

BACOW: I don't know if I'll end up in Washington on a permanent basis, but I still believe passionately in public service. And I've tried to be helpful in a variety of ways. And sure, if the right opportunity arises where I could be helpful, it's something which I would continue to be interested in doing. I think again, Chuck is a wonderful model of somebody who managed to both be a university president and to serve while he was doing it. He did service on the Intelligence Commission, the Space Station Commission. There are a variety of ways to serve without necessarily moving to DC.

INTERVIEWER: When you arrived at Tufts, you liked to ask people the question that if they had three wishes for making the university a better place, what would they be? You said, don't tell you more resources. If you had three wishes to make MIT a better place today, what would you recommend?

BACOW: Oh, I haven't thought about that in a long, long time. In some ways it's unfair to ask me that, because I had my opportunity. I revealed my preferences, as we say in economics, because I spent a lot of time working on how to improve student life at MIT. A lot of time working on trying to make sure that MIT students had the opportunity to study abroad, the same opportunities for international exposure as students at other institutions do. So that's something which I would wish more for.

And then I would probably wish for three or four more days in the week.

INTERVIEWER: What a wonderful idea.

BACOW: Some lucky college student could get another day off.

INTERVIEWER: Maybe we should give you some time off now. I thank you for the conversation.

BACOW: Thank you.

INTERVIEWER: Wonderful. Interesting.