INTERVIEW
WITH
DON ROSENFIELD
Sloan Oral History Series
October 31, 2013

D: Don Rosenfield
G: George Roth
B: Bob McKersie

G: It is October 31, 2013. It is the day after the Red Sox won the World Series, at home in Fenway Park. First time since 1918. This is George Roth and Bob McKersie, interviewing Don Rosenfield, going back to his time when he came to MIT but primarily focused on your many years in LFM, LGO. I don't know your history before that.

B: So tell us when you came, and why you came, to MIT, and what you came to do.

D: I first came as an undergraduate. When I was a senior, I took some graduate courses at the Sloan School. I got to know a few faculty there.

G: Where were you from when you came to MIT? Where did you go to high school?

D: Brookline, in Massachusetts.

B: And what year did you come?

D: 1965.

G: So you were a student. What was your major?

D: Undergraduate: math
Masters in Operations Research (OR).

G: And you said that as a senior at MIT you started taking courses…?

D: I took some OR courses, some of which were taught out of the Sloan School.

G: Do you remember any of the teachers, or the courses?

D: Yes. Gordon Kaufman taught Decision Analysis.
Jeremy Shapiro taught Math Programming
I think those are the only two I took here. The other OR courses were in other parts of the institute.

B: So you majored in math as an undergraduate, and you also did…

D: ...a Masters in OR.

B: And this brought you in touch with John Little, probably?

D: Yes, John was the co-director of the OR Center at the time. So I got to know him a bit too.

B: So you finished up those two degrees at some point…

D: Actually, there was a third degree. I got an Electrical Engineers degree, and no one outside MIT understands what it is. Most of the people at MIT don't understand what it is. It's a degree between a masters and a Ph.D.

B: OK. So this was some point in the 1970s?

D: 1971. And then I went to grad school at Stanford. Then in the late 1970s I worked at Arthur D. Little (ADL), which has an MIT connection.

G: Graduate school at Stanford in OR? Who was your advisor?

D: Jerry Lieberman, who later became Provost.

B: So that got you your Ph.D., then, from Stanford?

D: Yes.

G: What year?

D: 1974

B: Then you worked for ADL?

D: Well, I taught for 2 years at SUNY Stony Brook, and I worked for ADL from 1976 to 1988. In 1980, I knew all these OR guys from the OR Society, so Tom Magnanti asked me if I wanted to teach the "Models" course to the MS students. There were no MBAs until 1995 or something like that. So that got me involved. I taught what is essentially 060 for two years. Then I taught 15.761 Operations Management (OM). That was 1980, 1981, 1982. In 1983 I was sitting at my desk, minding my own business one day, and Al Silk called me and said "Harlan Meal, who you know, unfortunately had a heart attack. He was teaching a course. Can you take it over?"

I said, "OK. When?"

"Well, tomorrow."

So I finished up his course, called "The Operating Manager."

In 1984, I worked here full-time for a year as a visitor. Then I continued to teach courses part-time until 1988 when the LGO program started. Tom asked me if I wanted to do this program managing job. I was ready to leave consulting by then, so I said OK.

B: So when you were here – John Little combined both OR and OM. There is not much of a distinction, is there?

D: Well, by 1980, there was essentially a separate OM group. There were only 3 people: Arnoldo, Steve Graves, and Gabriel. And by that time, Arnoldo might have already made his move over to Strategy. I can't remember exactly when he did that. It was around then.

B: Were you teaching more in OM?

D: The first couple years it was OR. Then in 1982, it was OM. I'm trying to remember who was around then….. was it just me and Steve and Gabriel? I think it might have been. Larry Wein and Charlie Fine didn't come until a few years later. Steve Eppinger didn't come until 1988. Karl Ulrich came in 1988. Anant Balakrishnan came in 1988. Who else was in the crew? Charlie might have come around 1986, 1987. But there were a few years when it was just Gabriel and Steve who were the primary members, along with Harlan Meal.

B: He recovered from his….

D: Yes, he recovered and came back. He retired, I don't know, sometime in the mid-1980s. But it was thin. There weren't a lot of people teaching OM then.

B: So it was 1988 when you were asked by Tom Magnanti and the Dean's office to take on program management for the startup?

D: Well, I was friends with Tom. I said, "Look, I'm getting tired of consulting and all the travel. If a full-time job opens up, that is at least partially academic, let me know." He said, "We have this program starting up called LFM, and we'd probably need someone to run that. So you could do that and maybe teach a course or something." So that's how it got started.

I hadn't met Kent Bowen yet. But after that I did.

B: So you were really the first Executive Director?

D: Yes. We didn't call it Executive Director, but that's right.

B: What was the title they gave you?

D: I think it was Program Manager or something like that.
We started in April 1988, with the commitment to try to get a class in two months.
We had a research component that lasted until the mid-1990s.

G: I remember there was a five-year commitment that companies made.

D: Yes, it was a big commitment. What was the original question?

G: When the LFM program started. So if you came in the spring of 1988 to start the first class in the fall of 1988?

D: No, in June of 1988. We got the admit lists from three departments in Engineering, plus the Sloan School. We wrote to these people and said we were starting up this new program that leads to two degrees. Would you like to consider it? That's how we got the first class. We ran a regular admissions cycle the following year.

B: This is something we wanted to ask you and dig into: has there been any other oral history or any other documentation of the LFM Program? It's such an important accomplishment for MIT, and we don't want to duplicate it if there is something else. But also we want to understand how this program came into play and how it developed. And your important role in it is important material for the archives.

D: I don't know that there's an oral history. But there are a number of documents that came up when we started. Alice Waugh, our Communications Director, I think has copies of those. There were at least two articles. Remember the *MIT Management* magazine? There were

at least two major articles in that, which talked about the program, that are worth getting ahold of.

G: Maybe I can follow up with you when I send you the other information, and you can connect me with the person.

D: Yes. But, doesn't the School have back copies of the *MIT Management*?

B: Sure they do. But my guess is those articles may not get into some of the territory – it's always important for history to understand some of the challenges and issues, some of the things that kept you awake at night. Not necessarily the things that get into our putting the best food forward type of articles. You were there, and you're still there. You celebrated your 25th anniversary a year or two ago.

D: Yes.

G: One of the things we're interested in is the relationship of the Sloan School to the rest of MIT and how that has changed. And a marker in that has been the cooperation around the LFM program. I don't know, but from your part-time experience and understanding what that was like before, and how that shifted….

D: I think the LGO program helped significantly improve the relationship.

By the way, the MOT program started as a joint engineering/management program, and then it became a management program only. Then it got absorbed by Sloan Fellows.

B: That's right.

D: Well, setting up LGO, we created a lot of mechanisms for faculty to work together across two schools. You were one of the original faculty. We had 12 faculty set up as chairs on this.

B: So you got your first class, and you described the very ingenious way of asking people who were already admitted if they wanted to go into a fully supported….. right? That their tuition would be paid, etc., and they'd have a shot at employment by doing these internships. Then the program really got moving. It created a lot of energy and a lot of accomplishment.

D: Yes, I think so. The original grants supported us for five years, ever since then, it's become a question of demonstrating value to the companies. It's been more of a question of showing return, rather than "we're in this great venture together; let's see what we can do."

B: Say a little more about that. How do the sponsors evaluate return? What are they looking for?

D: Today it's a lot more of "How can I hire these students?"
"If I do an internship, what's the likelihood of hiring the student?"
"How much is the internship going to cost me?"
"What kind of return can I get from it?"
So it's a lot more direct measurement of value.
The quality of your internships will affect how you hire anyone, but it's not just the interns who are there, it's the whole pool. It doesn't matter that much who you take as interns because you'll be looking at the whole pool. Today some companies are overly focused on "who am I going to have as interns?" because those are the people they are going to try to hire and not hire anyone else. So they are equating it too much to an MBA program type hiring model.

G: Let's go back to 1980. What was your role? You were teaching, you were running the program, you were managing the sponsors. Did you have all those hats?

D: Tom Magnanti and Kent Bowen helped manage the sponsors. Yes, I was teaching. I was running all the operations, running admissions, running the assignment of the

internships, essentially running recruiting although we had some staff. It was much more of a startup mentality than it is today. I couldn't do all that today.

Within a few years, we were close in size to what we are today. First it was 20, then it was 32, then 35, then 40 per class. By 1992, we were up to 86 students in the two classes. We have 96 today. We were already pretty close within a few years.

B: So about 40-45 coming in each year?

D: 48. We didn't hit 48 until the Class of 1998. But we were between 40 and 46 for several years. So we ramped up quickly, and then hit steady state around 1997. About 10 years.

G: Administratively, you started out reporting through what?

D: We reported, I believe, to the two schools directly, the deans, until they set up ESD, then we reported through there.

B: We'll come to that, that's an important change.

G: You may send reports, but your budget and finances, were they in Engineering?

D: Through the School of Engineering.

G: That's what I thought, the School of Engineering but it was closely affiliated with Sloan.

D: Yes. There were various financial arrangements over the years. They would take away some, then give you some, then take away some. Generally, they are always trying to tax you a little bit more. In the early 2000s, we had what we called the "Triple Whammy." We had to pay Sloan School tuition rather than Institute tuition; we lost the interest in Pool C, which happened to everyone; and third, we had to pay partial tuition for the semesters students did their internships.

B: Even though they were not here. The theory being they were being supervised and that was taking some faculty time.

D: Yes, but we were compensating the faculty for that anyway.

B: That's an important budget relief item, I would think?

D: Oh yes. The other thing worth mentioning is, when we first started, the students got full scholarships plus a stipend. Now they get about 50-60% tuition.

G: Are they self-sponsored? Many were company sponsored….

D: There was never more than about 25% company sponsored. Now it's about 3 students a years.

G: And the rest are funding the education from their own resources?

D: Yes.

B: By comparison to a typical MBA student, they're getting half of their tuition covered now.

D: Yes. They have less debt than an MBA student.

G: Which enables them to go back into not just manufacturing, but the operations positions. It's LGO, not LFM. I notice you have consistently calling it LGO. Many of us still think of it as LFM.

D: Right. So those are some of the highlights.

In 1988, the group was growing a bit. Larry Wein, Anant Balakrishnan, Karl Ulrich, Charlie Fine – they were all hired.

B: How did you split your time? You had a lot of demands on your time? How did that sort out?

D: In the early years I was doing everything. I was teaching, I was advising students, and I still do that, and running the program. As time goes on, we built infrastructure, we got people working on internships, and we had program admissions staff. We centrally manage the assignment of students to internships, something for which we use a computer algorithm. The algorithm, which is used in many environments, was the basis of the Nobel Prize in Economics won by Alvin Roth and Lloyd Shapley last year. The point is it requires a lot of work on our part. We ask the students to rank-order all the companies; we ask the companies to rank-order the students; and then we do a match-up.

B: It's kind of like med school….

D: Exactly, it's the same algorithm. It's called the Gale Shapley algorithm. And there are complications. The only way to guarantee 100% matches is if each constituency fully ranks the other. But you can't ask the companies to rank all the students because there are some they may not be happy about.

B: Going to the governance of LGO, you mentioned that Kent and Tom would be the front lines in terms of dealing with the sponsors. George mentioned a minute ago, people have come in from industry as co-directors along with Engineering and Sloan. When did that start?

D: That started in 1991, when Bill Hanson was "loaned" by Digital. Then a year later, he got an appointment from MIT.

B: And those people would be almost more available than the co-directors, who have a lot of other roles to play. I'm trying to figure out how the leadership of the program played out. Someone like Hanson, and then there were several others…

D: There have been three in total. There was Hanson, Ron Slahetka, and the current one Vah Erdekian. You've met Vah, haven't you?

B: No.

D: They did it differently. Bill was more hands-on. He was nominally here half-time, but he was here more than that. We also had a governing board that consisted of senior executives from the companies, plus the deans. Then we had an Operating Committee, which is made up of slightly lower leaders.

B: And they would meet how often?

D: The Board met once or twice a year; the Op Committee met 3 times a year.

B: I can remember going to one of the OpComm meetings, and the sponsors were very unhappy that too many of the students were not going into manufacturing, they were going into consulting, following the movement of our regular MBAs into consulting and Wall Street.

D: That issue has never died.

B: It's almost one that you have to manage year by year. You're in a role where you counsel students, and it must play out sometimes in conversations you have with the students as they're trying to make up their minds.

D: Oh yes. I have to say, the issue is always under the surface. As the program evolved, it wasn't just consultants versus manufacturers. We had a major challenge; we needed to teach these companies how to attract students. Their attitude was, this is manufacturing, what

more do you need to know? You have to love it. I remember, we used to out to Detroit every year. The #1 operations guy at Chrysler would give a speech. He would basically tell the students, "We want you to come here, it's a great career, but expect to suffer. Expect to take a long time to reach a major position of uncertainty; expect that you will work very hard: expect that you will have no personal life. I'm divorced, and hey, that comes with the territory. Expect to suffer in general." And then they'd wonder why they wouldn't attract anyone.

We think we educate these companies about this. But it still creates an issue sometimes. In 2006, I believe, we had a panel with 4 members of our Board, with the students, and they didn't suggest that they wouldn't have any personal life, but they basically said, "We expect you to work on the floor for a long time, and work really hard, and that's how you get ahead." They made it sound so unattractive. And then they would say, "We're the heroes of the world. The consultants are evil people who don't know anything." So the students' reaction was, "Where are these guys coming from?? They make consulting look attractive. I'm going to look at consulting now." So there is still this issue.

The newer companies, like Amazon, Amgen, etc., they understand that you have to make things attractive to the students; you have to create career paths, etc.

B: But speaking of Chrysler, you had a superstar – what was his name… Jamie..?

D: Jamie Bonini.

B: Yes. You would bring him back to energize the students. "This is where you can go in Chrysler." Is he still with Chrysler?

D: No, he's with Toyota.

B: I bet he's doing very well.

D: Yes. He ran a joint venture in Brazil for Chrysler and BMW. And if you ask him why he left Chrysler, he said, "Because I want to be with the future of auto manufacturing in the US, and the future of auto manufacturing in the US is companies like Toyota. It's not companies

like Chrysler." Chrysler will say, "I want to move out all my factories, move them to Mexico, minimize any labor in the US because that's how I'm going to make money." And he didn't want to go along with that future. Toyota is a company that is investing in the US.

G: Build where they sell…

D: Yes. They're investing in lots of other countries. Manufacturing is still important to Jamie, so this is the way he sees industry going, at least in terms of cars.

B: You've alluded to the transition of what you might think of mainline, old big-name manufacturing companies into a much bigger portfolio of – you mentioned Amazon, Amgen. Can you help us understand when that portfolio started to change, and how it changed to the current time?

D: It's changed in three ways. There's been a broader set of industries, #1. And #2, it's become partially oriented toward services, and #3, it's become more international. In terms of industries, originally we were all automotive, electronics, and aerospace. Now we've got some consumer, biotech. We're not as strong in electronics as we used to be. We have several international companies. Amazon joined in the early 2000s. Now we have a number of operations, not necessarily manufacturing companies. There still are more manufacturing companies than service companies. And we are trying to figure out strategically what we want the mix to be and where we want to go. But we're not there yet. The first international company was ABB, which joined in 1998, I believe.

B: I have some other questions to ask, which is not quite along this line. This is getting into engineering, Sloan, and finding faculty advisors for the thesis. I know there have been challenges over the years to find people, but it helps us understand something about how MIT works. Can you share what have been some of the things that have made it better? I can remember early days when I was in the Dean's Office, there were a lot of issues about keeping Engineering connected to the program, finding thesis supervisors…. This gets to your role as

straddling and helping the students come up with solutions about who is going to advise them. You have to have good advisors.

D: Faculty in Engineering don't want one-off projects. They want projects that fit into what they are doing in the lab. Sometimes that's hard to do. We look for faculty that are interested in developing relationships with companies that are interested in the broader set of issues. The projects have traditionally been generated by the companies. We try to get faculty involved in the formulation upfront. Sometimes we do that. But mostly we look for faculty that are interested in relationships with companies and then they will get involved.

B: That comes more from the Engineering School side, doesn't it? Because they are always working on projects that connect them to companies.

D: You mean right now?

B: Yes. I'm just trying to figure out where the initial energy comes for focusing on a project that becomes a thesis. Is it coming heavily from the Engineering School side, and then it's not hard from the Sloan School side to think about what are some of the organizational or administrative implications of this.

D: But sometimes on the management side, you get some of the model building like the OR guys do. So it's not always an organizational thing. There might be a strategic piece, but it starts with a company generating a statement. We try to work with them to make it palatable for our engineering disciplines.

B: Which is probably the harder pull on the Sloan side?

D: Yes, probably. I think that's right.

B: But over time, you've probably had some faculty on the Engineering side who make more of these. If you did the distribution of faculty and numbers of theses they have supervised….

D: Yes, we defined something called Four Advisor Concentration. It's the percent of theses advised by the top four advisors. In management, it got up to as high as 70%. Now it's like 45%.

B: For the top 4?

D: Yes.

G: Wow, that's a huge load, isn't it?

D: Yes. Well, 50% is 24 students.

G: 6 students a person.

D: Yeah. And the top 4 are doing that.

B: That's on the Sloan School side. And on the Engineering side?

D: Well, probably 50% or 60%. But we've been compiling that kind of data. And that's still a challenge.

B: And in terms of how the program is seen, it would be helpful to understand a little about the implications of it going organizationally into the ESD.

D: Well, there are two implications of ESD. One is the organizational one, and one is the academic one.

In terms of the academic one, we created a new degree. All of a sudden, within a few years, half our students were getting their engineering degrees in ESD, which concerned us from a balance point of view.

Organizationally, it hasn't had that much of an effect.

B: When we they get their degree from ESD, what's the implication of that? You said that concerns you….

D: Only the balance, because there is a certain program you study there, and most of the ESD projects might be less manufacturing. They have a number of degrees. There's an ESD Ph.D.: there's a TPP degree; there's an SDM degree; and there's an ESD Masters. The ESD Masters if mostly LGO students, but not 100%. So there are actually 4 degree programs there. Oh! And there's a Supply Chain Management degree too. So there are actually 5 degree programs in ESD.

G: My understanding was that some of the people who came in the SDM program and were getting the ESD degree really wished they could get an MBA degree.

D: Yes. They weren't getting the ESD degree; they were getting the SDM degree.

G: OK, I misspoke.

D: Well, there was some…. You should probably talk to Warren about this. Well, Warren is not in the Sloan School. Steve Eppinger. But there were SDM students who wanted to take a lot of MBA courses. There was some discussion about that. I don't know, they might have improved that issue in the last couple years. I don't hear as much any more.

B: Well, it's a concern that before you had to hook up with an engineering discipline-based department, you had to have that leg.

D: Right.

B: And now you can satisfy that leg with ESD, you're not tying into as deep a discipline? I'm trying to understand what the issue is….

D: One is balance. We just don't think its healthy. There actually are three separate issues.

First one is, we think it's unhealthy if there is not balance among our engineering disciplines. We are concerned that half of our students are in ESD. We're all about diversity. That's one issue. The other issue is that you could argue that ESD is less about manufacturing than the other departments. And the third issue is one of perception. Well, you can argue that it's perception. Some people think ESD is not as rigorous as the other departments. And in fact, there is a major discussion about what's going to happen with ESD. Have you seen the Rivest Report? Well, it's a report about the future of ESD, and there was a suggestion that OR and LIDS and ESD get together and form one entity called the Institute for Something-or-Other. There's not a lot of consensus about what that should be.

G: Those are very different constituents.

D: Yes.

B: You mentioned Vest? Who wrote the report?

D: Ron Rivest. Chuck Vest was on the ESD Visiting Committee.

B: They are doing something in his honor today over at Stata. I think it's today, this afternoon.

D: Really? I never heard a word about it.

B: They're dedicating a corridor or something…? In the Stata Center….

D: Cool. So, you make it at MIT, you have a corridor named after you! [laughing]

Did you ever think about making it in different professions? Most professions, it's fame and fortune. In Mathematics, you know when you really make it? When you have an inequality or a bound named after you. Not just a law, but a bound, and in Mathematics if you have an inequality named after you – that's really making it. Or you can also have a condition named after you.

G: You're reminding me – one of the questions we have asked people in our interviews. As you look back over your career at MIT, what are some of the things that you're proudest of?

D: Certainly LGO and the legacy of students. I have a pretty good relationship with them, so that's one. The fact we got LGO going, and it's well-respected, etc.

G: Has the respect changed with the focus on manufacturing and the federal program here? The respect for LGO, and the work. I thought it would change, but I don't know….

D: Change for the better? I think it has. When AMP (Advanced Manufacturing Partnership) started, and when PIE started, to some extent we were not part of the conversation. MIT is looking at manufacturing. How come LGO isn't part of these working groups? I think that's changed. I got put on the PIE Commission, after it started. Georgia Perakis is on this innovation initiative. I'm on one of the AMP2 working groups.

G: It seemed to be kind of natural. I was curious to see who the people were, and I wasn't seeing some of those connections. One of the things we haven't talked about is how the innovations of the program were diffused to other universities.

D: Also the Sloan School. I think what we did in leadership was picked up by the Sloan School. First John Van Maanen, then Bob Thomas, then Jan Klein, developed a pretty strong leadership program in LGO. The School, in recent years, has focused more on leadership, and I think we had an influence on that.

B: I think what George is asking: other places picked up the theme of manufacturing, at other universities?

G: Didn't we help Cambridge replicate the LFM program?

D: Not replicate LFM, but we helped them with …. yeah, we've helped a number of universities. We helped the University of Michigan. Tom Magnanti did something with a major university in Sweden. We helped the university in Mexico. But the big one is the one in China. These other ones were kind of "hey, we're coming in for a day, can you tell us what you did." But in China, we've developed this CLGO program, or China LGO.

G: At what university?

D: Shanghai Jiao Tong University, SJTU. And their faculty come and we teach them how to teach courses. We advise them on admissions. In fact, the reason I had to change the meeting time today was because we had a review of the course that one of our Chinese visitors is developing.

B: Are they part of our Sloan international faculty fellows?

D: They're not part of it, but it's the same model. We worked with Alan White and others to help us develop that.

B: That's a powerful model, to bring the people over here, rather than us always going abroad.

D: You asked me what I'm proud of. One thing that's nice is I constantly get faculty walking up to me and saying, "Boy, the LGO students are so good. It's a pleasure having them in the class."

B: When you add up – how many alumni are out there now?

D: I think it's a little over 1,000.

B: Yes. And you hear from some of them from time to time, as to how they are doing?

D: Oh yes, I hear from them all the time. We had an alumni conference, a 25th anniversary in May, and it was nice to see them all. They are having an alumni conference at the end of April in San Francisco/Bay area, which they asked me to make sure I get out there for it.

B: Well, we're almost at 2:00. Are there things we haven't asked about? We tried to cover how you got here, and joined the faculty early on.

D: The other thing I'd add is that when I first started coming here in the early 1980s, it was a much smaller place. I remember the first-floor classrooms in E51 – 145, 149, 151 – those have been here for a while. But some of the classrooms were in the basement of E52. Those were not great classrooms. But it was a small place. In some ways it was homier. Everyone knew everyone. I'm not saying that's better or worse, it's just different. In some ways it was better. Obviously, the School has come a long way. This building is magnificent. But in some ways, the older atmosphere of a small, clubby place was kind of nice.

Think about it: there were only three faculty in OM.

G: That's actually a question I wanted to ask you is you've observed the Sloan School change over 25 years, and what changes have you seen?

D: I don't know how many students we had back then. It was probably like 100 a year or something like that?

B: It was more like 200. I think when we added it all up, we might have had 600 or 700 students, including Ph.Ds.

D: Yeah, but I think the MBA class was about 100. That's the other thing: we didn't have the MBA. Everyone did a thesis. The fact there was a thesis required – things didn't change much for LGO once we went to the MBA because we've always told our students they had to do a thesis. But I think that the fact that it was a MS degree for ALL the masters students, it added a certain academic component.

B: Well, you may think of some other things, or we may, but certainly your role here, and we recognize that the 25th anniversary has been terrific. And you've been able to hold onto the same space! Everybody else has been moving around, but you're still there, right? E40?

D: Yes. We've been there since 1991. We moved down a floor several years ago.

You know I'm stepping down in June, from LGO? I'm hoping I'll work part-time, teach a course, help with the transition, stuff like that. But we have a search going for a replacement.

B: So you're taking a quasi-retirement?

D: Yes.

D: When did you go – what percent time are you now?

B: Oh, I went half-time for 5 years starting in 1996, when I hit age 67 or something.

D: Oh, that's what I'm doing. I'm 67 this year. Wait a minute, 1996 you were 67. And after 5 years of part-time, then what?

B: Zero. I signed a deal in 1996 that I couldn't do anything after the 5 years for compensation. I could do anything I want to *pro bono*, which is what I'm doing.

D: So why did you sign that?

B: They had a great deal. I got a year's salary. It was that program they have not repeated, and a lot of people around MIT took it because they gave us a good interest rate on annuitizing MIT pension, and a year's salary, and a 5-year half-time. But at the end of that 5 years…..

END OF INTERVIEW