

LASEWICZ: This is an oral history with Dr. Irene Greif, IBM Fellow, conducted on July 28, 2003, by IBM Corporate archivist Paul Lasewicz. Thank you for agreeing to speak with us today. Could you describe your current position and title, some of what you do?

GREIF: Okay. I'm an IBM Fellow. I also run the collaborative user experience research group in the IBM Research Division. The research in our group is interdisciplinary, it looks at people in groups, as well as technology to support groups.

LASEWICZ: Could you give us an idea of how that applies to daily life?

GREIF: Right, well, the products that we've had most influence on have been the products from Lotus.

One of our earliest impacts on product was well before we were part of IBM. Lotus was primarily in the business of personal productivity tools and we added group features to 1-2-3... so that groups of people collaborating on planning a budget would be able to keep track of the alternatives they had explored, who had made which contributions and so on. We've done that kind of bringing group awareness to personal products.

We've also worked with the people developing Lotus Notes and products since Lotus got into the groupware business directly on innovations and new ways to help people collaborate.

LASEWICZ: How has groupware evolved since the early days of Lotus 1-2-3 to where it is the state-of-the-art that you're working on today?

GREIF: Well, it's interesting. When Lotus Notes was introduced it was to provide people with places to share information looking at the fact that when people collaborate through e-mail, you end up with everybody sort of keeping their own record of the conversation in their own inboxes.

So the idea of a Lotus Notes database would be to have a single place everybody posted their contributions to a conversation and you'd all be seeing the same thing.

It's actually turned out that over the years since Lotus Notes was introduced, e-mail has probably had much broader impact and is used by many more people than it was at the time. And many more people then used group products. So, the e-mail features in Notes are used more than the group features are used.

And the state-of-the-art today is that people have gotten very creative with how they use their inboxes and how they use their e-mail to the point where they're kind of managing their lives in their inbox.

E-mail hasn't changed to help with that. People are kind of coping. They're managing tasks, they're managing to-do lists, there are people [they know] the archives really. Most people can find files more easily if the file was an attachment to an e-mail than they can if the file is in the file system because they'll remember who sent it to them or about when they heard about it and so on.

So, what we're learning now is that by studying the kind of coping behaviors and the creative ways that people have warped e-mail into much more than just a messaging capability, that's where we're learning what people really need to support group work and we're kind of starting a next round of reinventing how people should collaborate.

LASEWICZ: I imagine that's not really something that you go to school to learn, per se. So, could you talk a little bit about the schooling education that you had and what interests you most and why?

GREIF: I think I always knew I was interested in math and in high school I got exposed to computers. I was at a

high school associated with a college and there was a computer, an IBM 1401, I believe. Punch cards and we programmed in zeros and ones and so on.

So, I started to understand I was interested in computers. I started college before there were really computer science majors. So, I majored in math but kept kind of dabbling in understanding about computers. And by the time I was in graduate school was a computer science student.

The issues of distributed computing were interesting to me technically, but I started to see parallels between the ways that people were kind of coordinating different copies of databases and the ways that people would do coordination problems in the world, like the way the people would coordinate calendars.

When you're trying to set up a meeting with somebody, it's very typical to ask everybody to hold a few times on their calendars until you find out a time that will work and then go back and do a second pass of saying that's when the meeting is. People were doing things like that. Inventing things like two-phase commit for synchronizing databases.

It kind of bothered me that it looked like we were doing redundant work. You'd get a very clever database algorithm

and then people were going to do the same work on top of it anyway.

And that was kind of one of the early insights that got me into wanting to look at studying people, watching people and thinking about whether when you looked at the actual behaviors among people, you would define the technical questions differently and ask different questions. And maybe solve some of these infrastructure questions differently, that was sort of the path that led me to looking at some of the social sciences.

I was never trained as a social scientist, but I found that there were people who had questions in common and we were able to build a research field that was at the intersection of sociology, anthropology and computer science.

And that's computer-supported cooperative work. And you're right, you still can't very easily find a program in computer-supported cooperative work, certainly not at an undergraduate level.

You don't go to school to study it, but people studying some of the contributing disciplines will find that by the time they are doing research at a graduate school or post doc level, that there are people in other disciplines they can work with.

LASEWICZ: Is that what you did? So you worked with somebody in other social science disciplines?

GREIF: Yes, that's basically what I did. As a graduate student, I still was pretty much straight computer science. Within the period of 10 years after graduate school, I made this gradual transition from doing computer systems work to looking at what people were calling office automation at the time. And then eventually started this research field of computer-supported cooperative work which really was when we started to bring more anthropologists into the picture.

You learn very different things from when you talk to people or interview them about requirements as compared to when you watch them. People are just not usually very aware of what they're doing to make work happen, especially in group settings.

This is actually something that people started to notice even in the days of office automation. There were a lot of systematic things people could do to start automating, for instance, flows of forms online. But it was also the case that when you tried to ask people what's the procedure for doing XYZ in the company, they would tell you some very

systematic way of passing information around the organization.

But then when you sort of followed people around and watched what happened, they were hardly ever doing it exactly what was in the procedure manual.

Either things go wrong and they have to fix them or while they're doing exactly what was in the manual, they'll also have a little side conversation about something else and some other work will get done.

There are a lot of stories from the early days of networking where you would put a process online, you'd make it unnecessary for somebody to walk a disk around the company or walk a form around the company.

And all of a sudden, something else completely, apparently completely unrelated would break. I remember one story about a woman who used to literally carry a disk around to collect spreadsheets from people, to do a roll up.

And it turned out that after they automated that process, supplies weren't showing up in several offices and nobody had been aware that this woman, she wasn't even aware, she didn't really report it to anyone that she, on her walk through the company would stop by her friend's supply office

and order some things that they needed without even thinking about it.

It wasn't on her to-do list, she never had to be reminded to do it because she kind of did it naturally. And she stopped doing it without noticing she stopped doing it.

So, there are always little things like that that need to be understood that could be upset by automating or that could be supported if you automate properly. So, I don't remember what question we started from there.

LASEWICZ: Well, we were talking about social sciences, how you got that input. Can you step back a little bit. You start off as a math and then computer sciences. Did you always pursue computers? Is that why you got into math? Or was this something that you evolved into as you went on with your studies?

GREIF: Yes, kind of evolved into it. I probably would have thought I'd be a mathematician, although I don't think I understood really what it meant to be a mathematician.

I mean my mother was an accountant and I always liked playing with numbers. When I was little, she'd give me long lists of numbers to add up and I'd feel like I was doing something really cool and like my mother.

But being a mathematician has a lot more to do with doing proofs and a different way of thinking about math. It's not arithmetic. But programming had a lot of that feeling of being systematic and at least in the early days, a lot of that kind of playing with numbers feeling.

But, definitely most aspects of my career have been sort of evolutionary as opposed to planned and I think that the interest in computers was sort of opportunistic at first and then sort of felt right and meshed with the math interest.

Practical as well, I guess. It was clear that you could make money and have a job doing work with computers. Although after getting into a Ph.D. program I thought what that was preparing me for was to be a professor.

And so I went to the University of Washington and then to MIT as a professor and I like teaching but didn't love teaching and didn't find that I could divide my time well enough between teaching and doing research.

And you have to do research to be successful as a faculty member and I finally decided that I actually was more interested in doing research than in being a professor. So, I switched probably after a couple of years.

I was at MIT for about 10 years after my student years, but about three years or so was as a professor. And then I stayed on in a research scientist role until I moved to Lotus.

LASEWICZ: And since you joined Lotus, can you kind of encapsulate, summarize your work that you've done?

GREIF: Right. So, part of what happened is that towards the end of the time that I was at MIT, I did start this research field and we would have social scientists and computer scientists really happily talking to each other but they were kind of still a little distrusting of each other's results.

So the social scientists would be studying computer systems that were deployed widely because they were watching them in the field. But that would usually mean they would not be the most advanced systems.

The computer scientists were building cool group technology that they could use among themselves but would run on platforms that were beyond what could be deployed commercially.

And then as the computer scientists got tuned into the fact that you really have to do a study in order to convince the

social scientists you had something interesting, they would kind of study themselves.

So, you know, three computer scientists would build a cool system that they would use to write a research paper together and they'd say that showed it was a good group system.

So, there was a real challenge with this discrepancy between what could be built in the lab but couldn't be studied well and what was widely deployed. And then Lotus was about to do Lotus Notes.

It was going to be a real group system that would run on PCs, on PC networks with some windowing front end. It was going to get deployed for real in companies and it looked like it was really a unique opportunity to do research in a commercial environment. The research that all these researchers wished they could do would now be facilitated by a commercial venture.

So, it was really quite an interesting opportunity to be able to move from MIT to Lotus right when they were trying to launch this product. And actually Notes became a product that many researchers wanted to study and wanted the opportunity to be involved with Lotus and with deployments of Notes.

So, that was sort of the motivation for moving. While Lotus was about to launch Notes, there were four people who had been building Notes and they had just assigned the first marketing person to it. When I joined there were about 1,200 people at Lotus and virtually nobody on Notes. The company was all about personal productivity tools. PCs were just sort of starting to get networked and you couldn't even get, reliably get a file to a printer if it was a network printer as opposed to one really connected to your machine.

So, the challenge was how to help get our own company understanding what it would mean to start thinking about groups.

It turned out that it became important to think first about what it meant to be on networks at all. And so a lot of the work I did the first year or two that I was at Lotus was about networking the personal productivity tools.

What happens if you want to get to a network printer? What happens if two people try to look at the same spreadsheet file at the same time? You know, now that that's possible because you're networked.

So, many of the earliest contributions I made were just around network awareness and our products and simple file

locking and sharing protocols for the personal productivity tools.

But over time as the company started shifting more towards being about groupware, we also started bringing some of these group issues into the personal productivity tools.

One of the first major contributions we made was something called Chronicle that later shipped as the version manager in 1-2-3. This was a feature for versioning in this spreadsheet product. I think the insight for this came from one of the times that Lotus was all excited about doing a deal with a big grown up company in the world, IBM, way before the acquisition.

There was excitement about putting 1-2-3 on to mainframes, IBM mainframes because then somehow you'd have these huge massive machines that could do roll ups to consolidate spreadsheets from all the departments into the budget for the whole company.

And the image people had in the story, the marketing folks were saying is that if you could also run 1-2-3 on a mainframe, you'd be able to do these roll ups faster and people would use the budgeting tools much more flexibly through the year to do adjustments and so on.

Well, it was sort of an interesting story but the truth is that it takes a long time for people in the departments to build their budgets and just having a big machine in the background to roll things up wasn't going to make things happen faster if you couldn't help the departments work faster on their own department spreadsheet.

And when you looked at what happened in the departments using ordinary 1-2-3, 1-2-3 is supposed to be great for "what if" experiments. But you type a number in and everything gets recalculated and it's all changed and wonderful and that's sort of what "what if" is about.

That's not great if you and I are trying to collaborate and you want to understand what did Irene just suggested and how is it different from what Joe suggested and how can I compare the two or can I flip back and forth.

So, those are the kinds of features that we started adding to 1-2-3. Things that would help a department work more effectively together in understanding how they were building their budget.

And we added those features to 1-2-3 and got rave reviews for group features. Of course, not too long after that Microsoft's Office Suite began to dominate Lotus' suite and

it was sort of moot that we had group-enabled all the products.

Although it's kind of interesting that Microsoft has never managed to do the kind of group enabling. They still talk now about moving from personal productivity to group features but it never kind of moved the center of gravity of those products toward the group. It's still an open problem.

So that was one of the first areas we worked in. We also noticed the Internet. This is hard to say is science but it's sort of one of the results you get from having a research group in the company. They're more in touch with what other people in the research world and the academic world are doing. And so we [Lotus Research] noticed the Internet before other people did and we did some prototyping of a way of publishing Notes information to the Web so that somebody could use a Web browser to read Notes databases.

And we tried showing this around the company to explain the Internet and a way that Notes can play in that arena. That people could use Notes to collect information as you are in your team room but then publish from there to the Web because the rest of the world is going to want to read with Web browsers.

So, we were ridiculed because the business model at the time was that Lotus was making money on selling Notes clients and we were making it possible for people to read Notes databases with this free client, the browser.

It ended up, we were right. Lotus still managed to sell a lot of product, but we needed to find a way to publish to the Web. That was sort of the way the world was going to go.

And one of our biggest accomplishments was turning John Landry at the time into a fanatic because he was the person who made fun of us in front of the whole technical community.

He used to have these big technical meetings when he was chief technology officer of Lotus, he made fun of us, he said this is just for academics. And six months later we had him dressed up as Spiderman coming down from the ceiling at Lotusphere to show that he got it, Lotus got it. So, that was one of our big accomplishments. There have been a few others since, yes.

LASEWICZ: You were talking about John Landry coming down from the ceiling.

GREIF: Yes, so that was as I said an indication of success.

LASEWICZ: If there are any products that you'd like to talk about that....

GREIF: So, yes, each time we've had impact on product it's been in a somewhat different form. It's sort of puzzling when people ask me how to do technology transfer because we haven't had one way that works.

Version Manager we actually were in this minority of people in the company who understood about group work and the importance it would have and we were trying to suggest new features to 1-2-3, the product, the thing that had made Lotus.

They were pretty smug, arrogant, whatever, they didn't want to listen to us. But we started kind of telling people outside the company and they started telling the company that this would be cool.

And so that was one way we were able to transfer technology. But we also had to do a lot of kind of evangelism and not just internal, kind of shopping the idea outside and getting it to be told back in from industry analysts.

On the Internet we went after this individual who clearly could influence the company and he was a skeptic at first. And I think the fact that he kind of made fun of us in public added to the challenge.

The next big success was around the product SameTime now. We had been experimenting with synchronous technology for years because of the way we understood that people work. We knew that e-mail and Notes being for asynchronous communication was not enough.

E-mail lets you communicate without working at the same time. That is very important. It lets you work in different time zones, different time of day, you don't have to be awake at the same time.

But there are many kinds of issues that just kind of never get resolved if you can't have a quick enough interchange, if you don't kind of both think about it at the same moment.

So, we knew synchronous communication would be a very important facilitator of work, a complement to Notes. But every time we would try to show anything like a chat in the company, it would look like games and it would look like AOL chat for teenagers and it would be made fun of.

So, we decided that we needed to convince the company that chat could be made fit for business and that it was particularly important if you did it with a sense of awareness and letting people know when other people were available, whether they're available to be interrupted.

And perhaps awareness around places. That if for instance you have a team room on a particular topic, you might want to know when other people are in that team room because that means they're thinking about this particular topic.

That might be a good time not just to interrupt them because they're online, but a good time to ask them a question about the stuff that you know they're looking at.

So, we built a case. We had lots of examples and prototypes we had build over the year, but we also had something called the SameTime Manifesto that just explained with a few crisp examples from business settings how synchronous collaboration with awareness could make a difference in a business setting.

And it was this case that influenced the company. No one prototype that we built was ever taken as a piece of code transferred to product. But we influenced the company to do a particular acquisition. They were kind of getting pushed into a position of customers kind of thinking they might want chat.

And Lotus was about to buy a company that didn't have any of this awareness capability in it. And then went and bought Ubique instead which is the company that's the basis for the SameTime products.

So our "technology transfer" story there was that we shaped an acquisition direction. But it's an odd one, you know, in the standards of IBM Research, we tend to look much more for real transfer of code.

And I feel like I've seen the company change strategic direction based on arguments in the case we were able to build over several years with a lot of prototypes. Seems as valuable, but it's kind of an interesting different example of a way of influencing the company.

And then the work we're doing right now is in the area that I alluded to before, reinventing e-mail. We've done a lot of studies of how people work in e-mail and have noted a lot of ways in which people are doing work beyond what the product supports. And we're introducing a number of new features that will show up in the new Lotus products over the next couple of years.

LASEWICZ: Sounds like fun.

GREIF: Yes.

LASEWICZ: Other things, to step back a little bit, you had mentioned, was the role of outside influences. Social sciences, working with external vendors. Can you talk a little bit to what professional organization that you belong to and perhaps benefits you derive from them?

GREIF: All right. I belong to ACM probably my whole career and get the benefits of a member. They have some of the most important journals to keep track of. They've also been funders of meetings that I have run so that the CSCW conferences are sponsored by two of the special interest groups at ACM, CHI, Computer Human Interaction.

And what had been an office automation special interest group. I think it's called Sig Group now. So, they provided real support and infrastructure forming conferences.

I don't know that I've been a member of SWE [Society of Women Engineers]. I've been invited into many of the groups that are supporting women. I now kind of talk to occasionally as a mentor, I don't think that they exist when I was coming along. I didn't know about them. So I didn't really benefit particularly as a young woman from organizations of that sort.

I'm a Fellow of the ACM. I'm a Fellow of AAAS. What else am I a member of? Oh, I'm in this the WITI Hall of Fame which was an honor that my whole family enjoyed. My daughter wasn't able to attend but it was a pleasure that my niece came with my sister, and my niece joined a group of young women at some kind of workshop for the day.

And it kind of was interesting for her to get a sense of what I do and what it's like to be part of the technical field. I'm not sure that that's she would go, but she enjoyed kind of a new discussion groups and getting exposed to women who were thinking about how to play in their careers.

LASEWICZ: Okay. You talked a lot about your experience in college on. Can you talk a little bit about some of your earlier experiences? I know you mentioned your mother and accounting and numbers. Were there other influences on you as a child or a young adult that kind of helped steer you in this direction or awoke your interest?

GREIF: Yes, well my parents were both - well, thought I was wonderful, that I was so smart. I could read manuals and figure out how to do things. So they thought that was very clever.

And it's sort of ironic because I'm a pretty committed non-reader of manuals now. If I can't figure something out without reading the manual, I figure it's not designed well. But they were always very proud of Irene. She read the instructions.

You know, education was real important. Being smart was important. So, I'm lucky I was. At some point, I took tests to the special schools; New York had these special high schools with admissions tests.

I went to Hunter College High School, which is a girls high school, but again just a really wonderful education but public education. So I had that opportunity growing up in New York City. What else?

Oh, a junior high school teacher I remember, Mrs. Jacobs. I've always wanted to find a way to track her down and I don't really know how to find somebody who was in the public schools.

She was my homeroom teacher and my math teacher. But what I remember she did for me she would buy me the teacher's versions of books so that I'd have the answers in the back so that I could go ahead of the class and check my work. And that was really helpful and I always remembered that and felt grateful to her.

MIT was obviously a great place to get my education. I've always been confused about whether it was good or bad to be in that kind of minority situation of so few girls in that setting.

And I don't really still fully understand what effect that's had on my life to be in the minority all the time. And my mother always talked pretty proudly about being the only girl in the math classes.

So I went in with this attitude that it was fine. But I have no idea what it would have been like to be in a more equal setting. My high school was a girls high school, did I say that before? Hunter High School. So that was sort of weird to have gone from a girl's school to virtually a boy's school.

LASEWICZ: It seems like it didn't have much of an impact.

GREIF: Yes, I know. I made the transition. You never know what it means that something had an impact on you. Things that I've been self-conscious about: was I a shy, self-conscious person or was I really in this odd position of being on display because of being in this minority?

I mean, it always surprises me that people will know me from college and then I put it together that, well, of course, there were only 50 of us in this class of 1,000. They would know me and I wouldn't know them. But were we that much on display the whole time and what does that do to you, I don't know.

LASEWICZ: You were talking about some of the people that influenced you early on. Have you ever had somebody that you consider a mentor, or several somebody's?

GREIF: Well, I haven't had somebody who was a formal mentor. I do mentor some women now and when somebody asks for that, I will do it. But I never had somebody who was formally my mentor.

I think what I've done at moments in my life when I need to make a change or when I'm trying sort out a new research direction or write a paper on a topic I'm not familiar with, I will do a bunch of networking and find people to talk to.

And I remember several different people with whom I had a "mentoring moment". I mean, even the thing I talked about before with the early days at Lotus realizing that I couldn't talk about group work, that group work was beyond people but I should focus on networking.

I remember the person who told me to do that actually. When I was explaining what I wanted to do and he said, you know, Irene, they're not ready for that. And he was absolutely right and I did something else and it worked out right.

I remember somebody else who gave me a pep talk about that transition when I changed from being a professor to a research scientist and there were different levels of research scientist positions and she just gave me this pep talk on the one that I should go for to make sure that I could still be a principal investigator on a grant and so on.

But when I have to be in charge, I'll do it. So, I think that these moments when I realized I have a reason to call people, I have a puzzle I'm trying to solve, so there's a question to ask and way to structure our conversation, those have been times when it's easy for me to reach out.

And when I've reached out, people have mentored me. They've given me the advice I was asking for and I think of those as mentoring moments. So, that's kind of how it's happened for me.

LASEWICZ: Do you think that that's attributable to the fact that you started off your career in academia?

GREIF: You are assuming that that would just be a normal way to start on a new endeavor as you go ask the other experts or something?

LASEWICZ: Is there something different about how academia approaches it?

GREIF: Oh, yes. Actually I do remember when I came back to MIT after being away for two years, I had done my whole undergraduate and graduate career there. I went for a job for two years, came back as a faculty member.

And I did look to one of the women professors there for some help and advice. And she sort of said to me, you know, Irene, that's not how this place works. Nobody's going to help you! Maybe that's why I never asked anyone for help again.

Yes, I don't think that they did mentor a lot at universities. I think people are trying to change that. I think that just as people are discovering mentoring and trying to do it a little more formally to make sure that people get it a little more uniformly in the business world. I do think people try harder now in an academic world.

But at the time I found that very interesting, even at a sort of baby company like Lotus, that there was much more

management and caring for people than I had seen in the academic world. Certainly at an IBM where there are so many more organized programs for developing people. That's a tremendous difference from the academic world.

LASEWICZ: You spent a lot of time and effort going through academia and getting your degrees, are they still relevant to you today in your performance in your job? Do you use them?

GREIF: Oh, yes. Definitely. I mean, what I get trained in as a graduate student and as a young faculty member is how to formulate a questions. What's a good way to ask a question? How do you know if you've solved it? How can you assess whether somebody else is asking questions well.

So, as a manager of Research Group it might seem as if I don't do research anymore, I just manage people and they do research. But I actually need to help my people formulate questions.

I set directions for the group. I need to understand whether the people working for me are being scholarly enough, even in an environment where we are very focused on influencing product and transferring technology into product.

What is research adding? Are we doing things that are more than what a product group would do? And it's the training and the experience I had doing that as a student and as a faculty member and as a supervisor of students that I make use of all the time.

LASEWICZ: As you look back over the positions you've had, do you see any common threads from position to position, from research topic to topic?

GREIF: Yes, I tend to put myself in these areas that are not squarely in any one discipline. So, I'm usually asking questions that can't be solved through just the tools of a single discipline. So, I'm looking for connections, looking for not just new ways to ask a questions but probably having to pull together new sets of tools to answer them.

I feel like one of my skills is being able to see connections and I need that, having interdisciplinary group of people working for me. I'll often be the one noticing the connections between what it would appear to be different kinds of work.

And then we end up being able to have an impact that would be different from taking a more straightforward, single discipline approach.

I take some risks and encourage my people to take some risks by just getting started on something and assuming that you can stop later and think about what you've learned from it.

So, just start building something or go out and look and watch people. And you'll stop, and you have to remember to stop and look - so that I bound the risk by not letting us get too carried away and just try to ship whatever we built.

But it was an approach that I have taken with students. Probably something that I learned from yet another mentoring moment when I was worried about my Ph.D. thesis and somebody told me just don't worry. If you spend the next two years, Irene, just thinking about this one area, the semantics of parallel processing, you will know more than anyone in the world about that. You will have something to say about it.

And so I encourage people to kind of get immersed in something and we'll figure it out. Having that confidence that you will be able to figure something out once you're expert enough is probably something I contribute. But as I said, I also have to contribute making sure that we remember to stop and think once in a while.

LASEWICZ: What do you find most satisfying about the work that you do or the work that you have done?

GREIF: I think that I like that the research is almost inherently applied. It is research but you have to be out there in the real world to do the research. You have to be watching people in real work settings. You have to have real deployable systems in order to do an interesting field study. So, it feels like exactly that right kind of research for a commercial enterprise invest in.

We're doing work that has real intellectual content and real applicability. And I like, again, being at that sweet spot between something that an academic would admire and that also will have commercial value.

LASEWICZ: One of the issues in corporations today is work life balance. Can you talk a little bit about how you've been able to balance your personal life with your professional life and whether there are any corporate programs or academic programs that help you do that?

GREIF: I think the main thing I've kind of figured out over the years is that you can't...I can't necessarily have balance at any given moment in my life. But by having kind of a longer term perspective, you can have a balanced life.

So, I know that I did less work when I had very young children. But, I also managed to be in a position where that was okay. I think I've been very lucky actually with the academic and even the research positions in the corporation that I've always been in positions where people measure you by your output, not by the hours you are visible.

So, I was able to be at home if I needed to be with the kids. I mean, I've always had day care but I've always liked to have sort of a day at home to have a sense of what's going on in the house. And that was pretty standard for academics to just say I'm not coming in a certain day.

But, even in the research division, even in the kind of jobs we have in this corporation, we can do that. I think it's sort of like what I was saying about the work also or about the mentoring moments.

You have to stop every once in a while and reassess and maybe shift the balance. So it would be easy to follow a path of being home with the kids more and not be working.

But you have to stop and think about when are the moments that it's important to put time into the career or how do

you stop just being home or how do you notice when the kids don't need you as much.

So, I've done it in a kind of evolutionary way of just reacting at different times. But I feel like I've had...you know, I've had kids, I've had a career, I've had time in the academic setting, I've had time where I've traveled a lot, times I've traveled less.

You know, my kids as they were growing up there were times when my children weren't always very easy or weren't always going to school and I'd be needed at home a lot more.

So, it's sort of looking for balance over a longer time, but also being lucky. I mean it's not just a choice you could make. If my talents had been in a different direction where I couldn't just choose a job where I'd have this much flexibility, I'm not sure how I'd have managed. My husband and I both have a lot of flexibility in our schedules and time.

LASEWICZ: That helps!

GREIF: Yes, it does.

LASEWICZ: As you look back on the work life balance issue, is there anything that you would have differently knowing what you know now?

GREIF: No. Hard to say...I mean, I think that no.

LASEWICZ: What do you consider to be your most important contributions to the field?

GREIF: Well, you know I essentially created a research field and so I think that seeing the need for it, rallying people. Computer-supported cooperative work (CCSW) is a field that didn't exist before. So it's a sub-specialty in computer science. But it is the field I created. So that's my main accomplishment of my life.

Then I got to recreate it, work by building the research group that I created at Lotus and that is now a part of IBM Research in that same spirit. So, I've developed a team that is interdisciplinary just as the field is and as the conferences are.

So, I've kind of done it twice. Once as a larger community kind of thing and once within the company. It was natural within Lotus, when Lotus felt ready to have a research group and needed to invest in the new direction it was trying to turn the company towards which was groups.

And so we built a research team that was entirely about collaboration and computer-supported cooperative work. Only about two and a half years ago, we integrated the group into IBM Research, and we're back to being in the tiny minority in a basically computer science kind of area.

But what I'm finding is that there is pockets of people across the research division who are interested and very good at this kind of research. And we're now building community and research programs across the division. So, I'm getting kind of a third chance to build that kind of research community.

LASEWICZ: What do you think has made you successful in your endeavors over the years?

GREIF: I don't know. I mean some variation on some of the things I've been saying. Some of it is luck and what talents and skills you were born with. Some of it is this ability to sort of turn on and off the times that I'm being critical.

There are times that I'm just sort of going with the flow and getting immersed in something. And there are times when I'll step back to try to make sure that I or my group or

whomever I'm trying to influence at the time is stopping to think and introspect and understand what we've learned.

So, I don't know again if that's a skill or talent a discipline that I've developed over the years. But it's certainly a part of what's made me successful.

LASEWICZ: I don't have any more formal questions to ask. If there's anything that you haven't covered that you feel you'd like to talk about or something, an insight that you'd like to provide.

GREIF: No, I might be kind of used up. If you really don't have more questions, I probably can't think of more. Okay.

LASEWICZ: Thank you.

GREIF: Good, okay, thanks. So do you think you'll get what you need from this?

LASEWICZ: Oh, yes, absolutely.

GREIF: Okay, good.

[END OF INTERVIEW]