

An Interview with  
**Sherri Brown**

at *The Historical Society of Missouri* St. Louis  
Research Center, St. Louis, Missouri

**21 May 2015**

interviewed by Maureen Zegel

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Josephine Sporleder



**Oral History Program**

*The State Historical Society of Missouri*

Collection S1207 Women as Change Agents DVD 39

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## PREFACE

The interview was taped on a placed on a tripod. There are periodic background sounds but the recording is of generally high quality.

The following transcript represents a rendering of the oral history interview. Stylistic alterations have been made as part of a general transcription policy. The interviewee offered clarifications and suggestions, which the following transcript reflects. Any use of brackets [ ] indicates editorial insertions not found on the original audio recordings. Physical gestures, certain vocal inflections such as imitation, and/or pauses are designated by a combination of italics and brackets [ ]. Any use of parentheses ( ) indicates a spoken aside evident from the speaker's intonation, or laughter. Quotation marks ["" ] identify speech depicting dialogue, speech patterns, or the initial use of nicknames. Em dashes [—] are used as a stylistic method to show a meaningful pause or an attempt to capture nuances of dialogue or speech patterns. Words are *italicized* when emphasized in speech or when indicating a court case title. Particularly animated speech is identified with **bold** lettering. Underlining [   ] indicates a proper title of a publication. The use of underlining and double question marks in parentheses [   (??) ] denotes unintelligible phrases. Although substantial care has been taken to render this transcript as accurately as possible, any remaining errors are the responsibility of the editor, Josephine Sporleder.

**THE STATE HISTORICAL SOCIETY OF MISSOURI-ST. LOUIS**

**WOMEN AS CHANGE AGENTS ORAL HISTORY PROJECT**

**MAY 21, 2015**

**SHERRI BROWN INTERVIEWED BY MAUREEN ZEGEL**

Sherri Brown: ...Dr. Sherri Brown. I have a Ph.D. in molecular biology and genetics. So with PhD.s we don't use "Dr." but some day, those are important parts of what we've accomplished in life.

Maureen: Talk about [inaudible 00:22] to your name.

Sherri Brown: Yes, so I've been fortunate. I have been working in my career, what I thought would be my first job at Monsanto Company. I've been there 27 years. I thought I would go and then move on to what would be my career and my career has been completely there. I had the good fortune to come in when biotechnology was in its infancy and I was the first molecular biologist. It's a person who splices DNA. We called them "gene jockeys" at the time and I was the first one to come in specifically to work on corn. We had been doing that in some other plants but, for corn and knowing the importance of corn in agriculture, to be the first one hired was very cool. So my first work was working in a laboratory at the bench and I worked on the genes and ultimately those turned into products and today they're planted around the world and I've had the good fortune to move downstream and help them get launched. I've helped farmers get advantage of those products. So my career's kind of followed that life cycle and, although I never was in agriculture, I took one plant biology course in undergrad but somehow took various steps and now I feel really good about the contributions I've made to agriculture and farmers and their families all around the world that are using the products that I helped invent. So it's been a great ride.

Maureen: Talk a little bit about how you got there. So, molecular biology was not in your radar when you were three.

Sherri Brown: Exactly, no, it was not. I grew up in a family of nurses and my mother was a nurse, her sister was a nurse, her mother was a nurse and I remember, they told me I was smart from a very young age and so that came with it,

sort of an expectation: "You're smart and you're not going to be a nurse. You should at least be a doctor, medical doctor" and so I grew up with sort of expectations about that. Everybody had gone to nursing school in my family but you were going to college, you were going to medical school, you'd have scholarships. So all along, they created a lot of expectation.

Maureen: The women in your family?

Sherri Brown: The women in my family, and an expectation that things would be in another generation even better. They, of course, worked with many doctors and they wanted to see women sort of rise to be equal on that level. So I went all through school, did a lot of science classes. I was fortunate to go to a school that, in those days we didn't have all the AP classes and advanced, but I was fortunate to be in a little place that did.

Maureen: Where was that?

Sherri Brown: I was in Waterford, Michigan, a wonderful place with lakes and I still enjoy Michigan, consider it home. So graduated with huge depth in sciences and graduated valedictorian and, interestingly, at graduation, the other thing they chose to point out was I also had the school record in shot-put. So I did enjoy volleyball and track and shot-putting as well as going to school. I remember in those days we actually did typing so we didn't have keyboarding but we did do typing and that class, I almost got my one B but I managed to pull out an A. Then I had to decide where to go to college and this was a big choice, as it would be. Because I had done well in high school and I had done well on the tests...we still did those tests, SATs and ACTs, I had a lot of choices and my two choices were to go to the University of Michigan and they had a six-year program where you do pre-med and medical school all in one, at the University of Michigan which was fantastic for that, or I could go to Hope College which was a liberal arts school with an excellent science program and would take that path. By that time, I was thinking, well, maybe an MD/Ph.D. would be good so I could be a doctor and I could do research because somehow I decided research was really important. I think it was probably my chemistry and biology teachers I was very fortunate to have, have great teachers in high school. So at the end of the day...and I think this is a theme that I've had...I chose to go to Hope College because I felt like the undergraduate experience, to really be a holistic person, was in

important and I felt like that six-year streak to the finish line missed out on some important life things and I just wanted to have the path and to have all of that. So that's what I did and they promised me that I could do undergraduate research and that's what I did. And so, a couple of really valuable things happened while I was there. I joined a lab and in that lab were four other talented, talented women and the lab was run by a guy but he was so supportive. So there I was in a lab of talented women. I joined a sorority full of talented women and did research and I found out through these talented women that you could go to graduate school and get a Ph.D. but you could get a stipend and you could do that without having to fund that. So, as I watched them go to great graduate schools and get great fellowships, I thought, well, I could do this and so that's the path I took. On my 21<sup>st</sup> birthday, I gave my first poster at a professional meeting and so for undergraduates to be given research presentations was really rare and so to get to do it on my 21<sup>st</sup> birthday, of course, I did have a few folks bringing me my first legal adult beverages and my poster. So it kind of brought everything together.

Maureen: [Inaudible 06:44].

Sherri Brown: I was working on an interesting infection called (chistacemyasis?) and it's linked with bladder cancer. But I think what I learned there was, what I enjoyed in science was systems. I liked the intersection and I liked the intersection of biology and chemistry and so when I was choosing graduate school I was looking at departments that were in that interface. Something else happened there my first year. I met a lovely man, Dave Brown, who was a scientist also and he was traveling a path of a research career as well and we actually got married between my junior and senior year and then we applied to graduate schools together so that we could go to graduate school together and we ended up choosing Indiana University and I got a Ph.D. there in molecular biology and genetics. There, it was interesting because I had always grown up with such supportive people in my life, all these women in my family, these great teachers that I had and they always said, "You can do whatever you want." I was in 9<sup>th</sup> grade when Title Nine happened and so, although there were doors that were shut early, that blew the doors open for women's sports and things like that. But when I got to graduate school, there were certainly very supportive people there but not everyone was and you would hear things like, "Oh, go to that lab because that's where

the women go” or “You might not want to do that because you’re married. Of course you’ll have kids and you might not.” But on the whole, there were so many supportive people and I did well. I got departmental awards and things and so it was a wonderful period of time.

Maureen: It’s a pretty competitive environment.

Sherri Brown: It is. One of the important things that happens in that path is, you go two years of classes and then you have to pass a qualifying exam to be a Ph.D. candidate and that’s one of the constrictions and there were 11 of us that took the exams and split pretty evenly, men and women. The exam was an all-day written test and then the next day you’d have an oral exam. My year of the six women or so, I was the only woman that passed the first time and the other women did not. And with the men, it was the opposite: all the men passed but only one did not. What was important there...I don’t really think they were as discriminatory as those numbers might sound but the oral environment and being competent and being able to say what you know and if you don’t know, kind of stay strong in this intense oral exam, that was where I think it was more difficult. Today, when I coach, I coach and mentor a lot of women, that’s still something that I think we all work on, is making sure that we’re as strong on the outside as I know we are on the inside. So I got through that. Several of the women got through on round two and actually, I was quite excited to be able to be a part of helping them figure out how to master those oral exams.

Maureen: What was the make-up of the questions?

Sherri Brown: My Ph.D. advisor was female but it was probably more men than women but, again, I would say the majority of them were just thrilled you were there and if you were doing well academically, that was good enough. But you didn’t dare be weak. You had to be strong. You had to really be confident in what you knew and as long as you did, they were behind you. Ultimately when I decided to take an industrial path, I had done really well and the more traditional career path at that time would have been to go into academics and to then go into research and teaching, down that path and they came and said, “Why would you want to do that? You’re clearly talented enough to be an academic.” They saw an industrial career as a second-class one, and I said, “No, this is the way that I want to contribute.” Plant biotechnology had just been starting as I

was in graduate school so it was a new field and I saw it also as a path where my husband and I could keep both, two good science careers and manage through that. So it was the balance. But, it was the right decision for me and, in fact, 15 years later, an older professor sent me a note saying, "I saw you featured in Science Magazine and I just wanted to let you know I was proud of you." He acknowledged that he hadn't been as supportive there of that choice. I think he thought it was made for not complete reasons but he saw that what I was doing was important and, after 15 years, to send that e-mail, I was rather honored by that.

Maureen: Did he encourage you, that professor?

Sherri Brown: Yes, that professor...on my dissertation committee, I had, it was sort of an average age of about 70, and I had a couple of younger faculty that were in molecular biology but I also had these classic older geneticists who had gone from the classic genetics era, one in (drosophilae?), one in paramecium...fruit flies but they had transitioned and, despite the fact that they were older, they embraced molecular biology and I loved that about them. In fact, one of my mentors had known Barbara McClintock who got the Nobel Prize and he'd tell me all kinds of stories. They sort of adopted me and took me out to the corn field and things like that. So I had such wonderful role models that took science and continued to evolve well past what normally would be considered retirement. So I had these folks around me that all were pretty supportive. So that worked out really well and, of course, many of them aren't around anymore but I try to pay it forward now.

Maureen: You obviously have taken leadership roles. You're a leader now, you're an executive of Monsanto. Talk a little bit about learning leadership. So you probably came up against it a lot when you were in that [inaudible 14:07].

Sherri Brown: I did, because I came in on the early side. We were growing.

Maureen: Did you learn it in Girl Scouts?

Sherri Brown: Yeah, you know, it's funny, I was a Campfire Girl. We didn't do Girl Scouts but I was the president of my Campfire Girl. So I felt like, actually, early on...you know, no one ever sees themselves...at least I didn't, I didn't see myself as a leader but I realized that people, when we were at the table, if I started talking, they sort of expected me to get us going. So I must



have known I had something like that. I tended to get the awards that combined content knowledge and leadership. So I kind of knew that was probably inside there. When I came to Monsanto, I did have the opportunity to lead things early, first at the bench and help other younger scientists, but then I found that these projects that I worked on needed to bring a bunch of different kind of people to the table, some scientists, some business people, regulatory, lawyers, things like that and I found that pulling people together and helping them find a path that everybody agreed on and balanced all the different issues, that that was something that I did well. The other thing I liked about that and has been sort of a hallmark of the roles I've taken is, I liked having one foot in the science world and one foot in the business world. It reminded me of my old days when I wanted one foot in the biology world and one foot in the chemistry world. I like seeing how things fit together and I think I've been sort of building on that talent throughout my career. But, I got often put on those projects that didn't have consensus. So I found that I had to be tenacious. Some people would call that stubborn. You definitely had to have a vision and not everybody always shared it and so this combination of, how do you show your own enthusiasm without overrunning other? How do you get a consensus when not everybody kind of can see three steps ahead. I had to learn about that and, like any leader, I stubbed my toe more than once, although I think women leaders are very valued. My company...science in general...agriculture in general is still a man's world. It really is. Women are making progress. So I found, in order to be a leader in those worlds that are colliding, I had to work hard to find an effective leadership style. I don't think I always succeed at that. I've done pretty well but that will always be something I have to work on. I think women in this day and age...

Maureen: Can you talk about one of those incidents?

Sherri Brown: You know, I think it's threading the needle, where if you're not strong, you're not at the table. You're back doing something in a support role at the bench, in the office, whatever, if you're not strong. If you're too strong, you might be called that "b" word or you might be branded difficult so this threading that needle is something that is difficult for women, in general, and I think sometimes that fine line is very fine. I'm not even sure it exists all the time. Other times I think...and, one of the things I work on today is helping other women, and also broadening the

line, working with everybody, male colleagues, female colleagues, to say, we need everybody's best leadership and we need to evolve in what leadership looks like too. But as I was coming up, finding that effective style and certainly there were times when you push too hard and you have to go back and bring people along. I never hesitate to say I'm sorry, I was wrong, or I might have tried to go too fast or maybe I didn't explain what was important. So you try to use your people skills to bring your relationships along. There's a few times I was quiet and later I would regret not having spoken up. So I've made errors on both sides of the line and I think we all continue to be students and those are things that I'll always be working on to develop.

Maureen: What about your career. Talk about some of the people who have influenced you Talk about those people [inaudible 19:01], your mother and your aunts and [inaudible 19:06]. Who are some of those people?

Sherri Brown: Well, I've had some really wonderful folks in my life, a guy named Rob Fraley who's the head of Monsanto. He's known for biotechnology. He won the World Food Prize last year but he interviewed me and he's sort of been the [inaudible 19:26]. I've reported to him or reported to people who reported to him virtually my whole career. He is very strong and especially early, trying to be good enough to really earn good kudos from him. Kudos were rare. Occasionally I got them and, boy, that was a wonderful day. I always looked at his energy and his passion and his clarity of thought and really admired that and he's been a champion. He, like many mentors, he's tough on us and tough on me but I've learned more from him than anybody. There's another guy, Ernie Jawarski who also helped hire me. He's been retired for quite some time but he was another father of biotechnology. By the time I got to know him, he was (late?) in career and very, very nurturing but he's been somebody who's always said, "I know you're going to do well. We're investing in you" and as I've gone along, and now I'm kind of on the second half of my career, he's always said, "I knew you were going to be a good one." So I still go out and have lunch with him from time to time, and both of those guys just have been recognized as the fathers of biotechnology. So the fact that they've been so supportive of me all along kind of validated that I had something special to offer and I try to live up to that. It's interesting now, I've got two children. One's 25 and one's just graduated last year, 22, and I actually think parenting them as they grew up, especially high

school and college and beyond, helped me be a better leader. Like all moms, you worry whether you've balanced things right and as soon as they were old enough to get that conflict, they've always said, "Oh, Mom, I'm so happy you work." They know I had a lot of energy and they were happy to share that energy with my role. I don't think they wanted the full intensity of my energy as a mom. So they've been really good and some of my roles have involved a lot of travel so it was nice that they understood that when I wasn't there, I wanted to be. And then I was fortunate to have a pretty flexible job so that when they really needed me to be there, I could adjust my schedule. So I feel like I really got to be a big part of their lives and watch them go through things. But now, as they're thinking about careers and what is a successful life and where does work fit into that and where do relationships fit into that and where does achievement fit in. So thinking about those things has really helped me really reflect on how that fits because when I was five, I was thinking achievement all the way and I had to learn to layer over the relationships and to build in having fun in life and I think nowadays, kids and young adults want that balance right away and I think they have it right. So as I talk about my kids, they're great achievers and they've done wonderfully but I also see them having great relationships; I see them balancing their desire to have great careers with the other things in life they want and, of course, I couldn't be more proud of them.

Maureen: How about your husband, [inaudible 23:15]?

Sherri Brown: Oh, yes. In fact, tomorrow is our 33<sup>rd</sup> anniversary. I have to make sure I have the math right. He pursued a wonderful science career starting in Monsanto. It turned into Pfizer so he was a pharmaceutical researcher and he had a wonderful career. Somewhere along the line, he was able to time shift a little bit so he would come in early and leave a little early which was wonderful because then as our kids got busy after school, he was able to really participate in that and be a little bit more of the guy who coached baseball with my son and those sorts of things. So that helped a lot. It helped us balance. Then he retired from Pfizer when they pulled out of St. Louis, I don't know, probably five years ago and then he's been working as a retiree contractor for Monsanto. So he works a little bit fewer hours than he did earlier in his career but we've had parents and older adults in our life who have needed help just like the kids did so he's been able to use that flexibility to do that. So he's been

great. Early on, we started about the same level. I was in an area where my career went a little bit faster relative to leadership but it's been a team the whole way and one of these days we'll retire. We've started to travel a little bit and practice having some fun. As soon as we're good at it, then we'll retire. But it's been a great partnership.

Maureen: So it sounds like you've got wonderful support from [inaudible 25:03].

Sherri Brown: I feel really blessed that way. I don't think anybody achieves without support and the ones who say they don't just don't know it. That's my view. I've had great support and sometimes...there are naysayers out there who, for whatever reason, don't support you but that's not where you focus.

Maureen: Have you been recognized for whatever achievements?

Sherri Brown: Yes.

Maureen: [Inaudible 25:38].

Sherri Brown: Yeah, my resume's got a few of those.

Maureen: Can you talk about it?

Sherri Brown: For posterity, someday hopefully I'll have grandkids. You know, growing up I got to be valedictorian, I got to be the honored graduate in biology and undergraduate, there was a Patterson Award. As a graduate student, they had an outstanding award. One of them I wasn't eligible for because I had a five-year fellowship, NIH, the National Institute of Health awarded me a five-year fellowship for graduate school. So I was very fortunate. So between that and national merit scholarship, I had a lot of support to get through school. Because I had that fellowship, the normal graduate student award of Indiana, they couldn't give me but they gave me a special award called the Cleland Award because of some of the things that I did to pull people together into groups that had students and faculty interacting in journal clubs and things. So they gave me a recognition when I left graduate school.

Maureen: It was a leadership award?

Sherri Brown: It was a leadership award. At Monsanto, I've had several technical achievement awards that have recognized some of those steps along the

way. I've got about 20 patents from my work. I also received Monsanto's highest scientific honor called the Queenie Award for my work on a product called Round-Up Ready Corn. That was quite an honor. Very few women have been given that award and I was one of the first few. It's opening up now, I'm happy to say. And then recently I was given an award from the American Society of Plant Biology and this is the first time they've given an award to industrial scientists and together with two other Monsanto scientists, I received the Industrial Innovation Award for my work on insect-protected corn crops. So that was quite an honor. I've also had a couple of awards from the YWCA here in St. Louis for the balance of leadership at work and in the community. So I've had a lot of recognition.

Maureen: Were you (on the board?) for them?

Sherri Brown: No, I'd love to be. I've actually served on some boards...note to self. I've served on a few boards, mostly on science outfits so I served on the board at the Research Park at University of Illinois and then one at SIUE-Edwardsville, and then on the Science Academy of St. Louis board as well. So I'm starting to think about what's next. I've joined Zonta which is a wonderful professional organization of women.

Maureen: I have a friend who just came off the YW board.

Sherri Brown: Note to self.

Maureen: Blanche Touhill is a historian of all kinds of things. I think when she was in college, her main (history was?) Irish history. But she likes to look back and see (as this project is?) so you might...50 years ago you were a little child.

Sherri Brown: Yeah, I was born, but yes.

Maureen: Imagine 50 years ago and what it would have been like to be a woman. You could talk about your mother, your aunts and, looking at today, what does that [inaudible 29:31]?

Sherri Brown: Oh, you know, I look at opportunities and if I reflect, my mom was a nurse. She was in nursing school. She got married in nursing school and you couldn't be married so she actually departed nursing school six weeks before graduation, just for getting married. That would, of course,

not happen today. The careers for women when I was in high school, it still was a lot of teaching and nursing and while those are great careers and I have lots of friends who have chosen those, the number of careers that women can have are incredible now. I look at what Title Nine has brought to equality in women's sports. The only door I ever had that I remember was absolutely slammed shut. I went to junior high, 7<sup>th</sup> grade, so it would have been early '70s, pre-Title Nine and we had one elective and you could choose industrial arts: woodshop, metal shop or homemaking. Now, my mom had been a single parent. I cooked every night; I could sew. I knew all of that. I saw no reason to do Home Ec, so I chose industrial arts and they wouldn't let me take that because the girls had to take homemaking. So that was early '70s. I got a little taste of it but as I was going through, the doors were opening, opening, opening. So 50 years ago, I think about what I've been able to accomplish and I just don't know if I ever would have gotten through those. Now, I think some women were through theirs. I was lucky enough to have a woman Ph.D. advisor. She was actually a child of the '60s so she was a flower child so I got to see that, what people came through. But I look back, the Blanche Touhill era and it was just a few women who got through and thank goodness they did and they prepared and got things started. Then, my generation, we started to open the door and we're still expanding what women can do and so we've gone to half of the Ph.D.s in biological sciences, not so much yet in physics or computer science. We still have some barriers to go there but things are really changing and I think about my daughter who might be sitting here some day and what will be then? Will they even think about certain things? I didn't call boys. Girls didn't call boys in high school. That's not a barrier for young women now. I certainly know the girls called my son. So I think about so many things that have changed and I think the role of parenting has changed in such a wonderful way. My husband and I both got to enjoy full parenting and a generation ago, that was much more skewed.

Maureen: [Inaudible 32:49].

Sherri Brown: Oh, yeah.

Maureen: They still do.

Sherri Brown: They still do. We had some wonderful stay-at-home moms who have been my friends all along and we partnered in making sure that

elementary school hummed, yeah. So it's wonderful because I think women have all of those choices. They can be in the workplace through their entire career, they can stay home for a while, they can come, they can go out. I think we really have so many choices.

Maureen: How about your children, what professions have they chosen?

Sherri Brown: No scientists. My son is an engineer so that's pretty close. He's a mechanical engineer and he chose industry and he very much looks at what we've done and he's looking down the road to see "how can I mix business and engineering?" so he sought that. My daughter liked math and, although I would have loved to have seen her in biology or chemistry, she chose finance and economics and we just celebrated graduate last weekend and she's going to go and work in the finance industry for one of the Big Four accounting firms. So she's very strategic though so she chose to go into mergers & acquisitions and finance and economics. She likes how the strategy and the math come together. But they seem to really balance life and they're achieving and doing very well. I admire a lot how they build everything in.

William Fischetti: I've got a couple questions actually. You can go ahead and address these to Maureen. I'm interested in hearing...you said you had 20 patents of [inaudible 34:49]. Could you tell us a little bit about those patents and which ones you were proud of?

Sherri Brown: Yeah. I do have 20 patents and those, they range. Most of them, I worked on genes and what I did in the early days is we were trying to figure out all the tools that would go into biotechnology for plants and so I worked on finding all the different ways that you could take a gene from one organism and make it work in a corn plant. So there are elements that turn genes on; there are elements that make proteins more abundant and so I worked on a number of those things and I've got patents for those individually but also how they came together to make products that improve corn, to increase the way farmers can manage their corn crop. So that was kind of one vintage and since when I came and started on this, no one could do biotechnology in corn and then together with what I did and a number of others, we figured out how to do it and we were among the first in the world to do that. Then we were the first in the world to do something useful. So we had the first field trial of biotechnology corn. It's right here in Jerseyville, not too far from here. I

had the opportunity to launch those products in the U.S. and then later went and helped get those products launched around the world. So I had a job where I traveled to all kinds of agricultural countries to help farmers there. So I've spent a lot of time in Brazil and Argentina, at the Ukraine, China, Singapore, Mumbai, Europe, other parts of Europe. I've really gotten a chance to see the world through an agricultural lens, just by following...you know, you start in the laboratory working on a test tube this big, turn it into a gene, then you're working on a corn plant, and then you're working on a corn field, and then you're working on a launch all around the world. So that gal who took one plant biology class some years ago, you just learn a lot on the job.

William Fischetti: Just related to that, taking this globally, what impact have you seen in some of these countries by taking the corn there?

Sherri Brown: Yeah, that's great. I'll tell you what: I've worked on soybean corn and cotton in that global role and it's interesting to see...we think about the products and what they do technically but you go out and talk to farmers and then they tell you how it helps their life. So I first worked a product called Round-Up Ready Soybeans and farmers would tell me...of course, when I met with farmers, I often wouldn't meet with farmers' wives which is, again, a sort of unique flavor, that being a woman in what was often a guy's role, was actually a help. You'd go talk to them and they'd say, "Well, gosh, our family doesn't have to go out." The kids' job was to go out and weed the soybean field, "walk the bean" and so we brought this improved way to control weeds in their field and I had families tell me, "You know what? It's July and we're going to Disney World. We never would have been able to take a vacation in the middle of the summer because we'd be tending our crops." And then later, I worked on a product that replaced kind of a nasty insecticide that farmers would put on the roots of corn plants. And so farm wives would tell me, "You know, when my husband applies this nasty insecticide, I make him take off his clothes on the porch and I wash those clothes in a separate load of wash because I don't want that insecticide to mix in with my family's laundry." And so we made this gene that would kill the bugs when they ate the plant and the farmers didn't have to use this granular insecticide in the same way and so farmers' wives said, "Wow, now we don't have to have this nasty stuff coming into my house" because farmers live in the middle of their workplace and so it was very interesting. Then, when I went to



India, I remember very well, I met a farmer who had been using our products for a number of years and he took me to where he had started his home and it was in a little village like a tent village and these families all lived around this little...it was almost like the way you'd go camping, so it was a little tent village and he'd plant and every year he'd keep the proceeds and because he was getting higher yield in cotton, he was making more money and what he did is he said he divided those proceeds. Part of it he put to start helping his kids go to school. The second thing he did was he re-invested it into his business and he'd buy a little land and then he bought a little more land and then he bought a little more land, and by the time I met him, he had 10 acres which was huge by Indian farmer standards and then he showed me the house that he had built. Of course he could not have been more proud of that house and I could not have been more proud to meet him and his family and see what...now, I didn't work on that one in the laboratory but my gene was in one of those, so to actually see that what you work on means something to someone's life in that way. Now his children went to school. He hired people to work on his farm. His kids could be in school. He had a wonderful daughter who was a young adult and he had a younger son and they were getting an education and he now owned 10 acres of farm land and he employed others in the village, helping their economy. And then to see this house, of course, it was a small house by some standards but it was a palace compared to how...he had been bettering the life for him and his family and to see how products that we made and science that I got to do made an impact on people's lives. Not everybody gets to see the fruit of their labors in that way. So, it's pretty cool.

Maureen: Do you ever get involved in the negative [inaudible 41:46]? You might not want to talk about that.

Sherri Brown: No, that's okay actually. You know, it's interesting, having been involved so early...

Maureen: [Inaudible 41:52].

Sherri Brown: Oh, absolutely. I was involved early and so I think in some respects, we knew it had some potential, of course, but we always thought the science was so sound, the safety was so sound and the benefits were so strong, we thought those things would win out. It was an intellectual look at it

and what we know now, of course, is that there's a whole emotional side and that sometimes the science doesn't win the day. Certainly the advent of the internet, some things like mad cow disease happened about the same time as biotechnology and that really colored what was happening in Europe, probably didn't help that much that American companies were first. We had European companies who were with us early and their products didn't come out. So now I spend a lot of time helping translate the science and the benefits and the strengths of these so that consumers and public can understand it. I spent time with university students, helping them think about why a career in an agriculture or food space is a good way to bring their talents, and when you talk to young people now...especially with the internet, there's a lot of untruths out there...I spend a lot of time having to kind of clarify what the truth is, what the facts are. But then I talk to them about, just like I talk to my own kids: "How do you think about what a successful life might mean? How do you think about using your academic talents and how do you think about jobs and what industries or which ways you might proceed?" So I do have the good fortune to talk a lot about what I've learned in my career and listen a lot to what young people want and help them think about ways they can have the impact that they want. I think that's a neat thing about this millennial generation. They definitely want to make a difference in the world and they put it out there front and center and because I'm in a world in agriculture and food, that is so important, the environment. It's a great conversation.

Maureen: So do you travel around and talk to high school and college students?

Sherri Brown: I do.

Maureen: In what capacity? As an executive at Monsanto?

Sherri Brown: Yeah. So after leading a number of platforms on the science side, in the last year I've taken on a role, they call it "science strategy lead" and I do a whole bunch of things in my portfolio but one of them is to be working on the outside, talking about the importance of innovation and science, to how we're going to feed nine billion in 2050 and do it in an environmentally sustainable way. We think the tools that we innovate, whether it's biotechnology or tools of precision agriculture, some of the other things I'm working on these days, we think that innovation is required and so we need two things: one is we need the public to

understand that so we can be good citizens and get that to happen, but we also need innovators. We need plant scientists and breeders and engineers and computer scientists to all come together and apply their talent to solving the challenging of feeding a growing world. So, I go out and I talk to people in academics and I talk about biotechnology when they have questions, I talk about the concept of big data, I talk to them about agriculture is not an old guy in overalls; it's actually very high tech and you don't have to be old, you don't have to be a guy and you might not be on a farm. A lot of the most important agricultural contributions aren't necessarily production agriculture. They're all these other innovations. And so I'm out there talking about that and helping students think about whether that might be a possibility they want to pursue. So it's interesting, as we think about kind of where we've been and the tools of agriculture. I'm in a position now where I'm thinking about strategy and innovation and innovators and I get to think a lot about where things are going and there's some trends that are kind of cool that I think, in 15 years, are going to be important parts of how we are going to feed that nine billion, nourish that nine billion because it's not just food and calories; it's quality and health and wellness. I'm really excited about how the sciences are coming together so when I started, it was, you did biotechnology and breeding was a different thing and then you kind of brought them together at the end. Today, some of the tools that bring biotechnology are also used in advancing breeding and so, unlike years ago where the only way to understand a plant's genetic potential was to plant it out and look at it, see what its yield is, see what its characteristics are. Today, we've made such advances in things like DNA sequencing and we can sequence a plant's genome very fast and just like in medicine, these advances are happening in medicine but in agriculture, we will learn more from a plant's potential today by looking at its DNA than we would planting it out, we know so much and that knowledge builds on itself. So we'll continue to be able to use the tools of molecular biology in understanding genes to accelerate how quickly we can do breeding. It's also interesting, other intersections, so engineering and automation. I led chemistry for a while which was interesting. I wasn't a chemist but in that group we had the automation engineering group and we had a group that created this seed chipper and it was kind of cool. One chip went one way and we did DNA and then the other...the seed still was viable so we'd study the DNA and then, of the ones we liked the DNA, we could then go

back and plant only those seeds that we thought were good. You can basically eliminate whole generations of having to test plants and it speeds everything up. So it was pretty exciting, to have that on my team while it was really going fast.

Maureen: Literally chipping seeds?

Sherri Brown: Yes, taking just a little shaving, keeping the seed viable and having enough to make DNA from. But that's example and there's many others where you've got breeding or plant biology, molecular biology, engineering now coming together to bring automation to accelerate these things. I continue to be very intrigued with how these different disciplines come together to create innovation. Now, the computer science...my first computer science class, we had cards and you had to, like, submit your little...I'd studied [inaudible 49:37] and you'd submit your cards and if you made one typo, a semi-colon instead of a colon, it would be a whole nother day before you could troubleshoot your code. Today, kids do coding in 4<sup>th</sup> grade and we can analyze huge amounts of data and create algorithms that allow us to make fantastic predictions and the science of predictive analytics is really going to push us ahead of how we can glean more information and more knowledge from the data that we collect. And so, again, you overlay that as a new discipline, really using math and then you overlay it with agronomy and breeding and biotechnology and plant biology, and again, a whole nother later, the whole GPS and now being able to combine precision agriculture which brings in engineering, but also overlay it in a spatial way. So we're looking at farming by the meter, so instead of a farmer saying, "Here's the best optimized seed and inputs and everything on this acre..."...or this field, he's now...he and she is now going to have this opportunity to specialize each acre which allows you to use much less inputs and have much higher yields. And so seeing all of how this is coming together, it's still very new and very early, but it's so exciting and I think in 15 years, the endeavor of producing food is going to change just by all of these innovations. When I think about how do I talk about the innovators of the future, we're aren't just talking about people in an ag school who study agronomy. We could get somebody from engineering and IT and biology and then they also have to work together so those students that who are bilingual, multi-disciplinary and, in one student, know multiple disciplines but also being able to work around a very multi-disciplinary team, those

are going to be the best innovators of the future. Then, of course, that's technical skills, it's also soft skills and so when I talk to young women about the opportunities that they have to feed the world in a way that's sustainable with the environment, we need more women in there, and yet, some of the very disciplines that I think are going to be so important, women are very under represented. So I spend a lot of my personal time as well as my professional time talking to students, and especially young women students about those careers and how satisfying they can be, how impactful they're going to be to our future, and really that they're welcome and they need to look up and see more people like me, to know they're welcome. So I feel like I have to be very, very visible. I don't think of myself as a feminist but I think of myself as...I really see the challenges of our world is so large and that we dare not leave any talents on the sidelines. And so, since I do believe women, people of color, I don't think we've yet got all of the talents applied in every way that's going to matter. I spend a lot of time and energy really working at that.

Maureen: Feminism has gotten a bad name.

Sherri Brown: You know, I think for a while it kind of meant women's needs at the expense of others and I don't think that was ever the intention but I wake up in the morning and say, how do I get the best of all of our talents, and it just turns out that I have a special place in my heart, for obvious reasons, but again, I think women's talents are still not fully deployed. We still are under represented at the boardroom; we're under represented in leadership roles all over, in academic science and industrial science and many aspects of business. So I think it's important for my generation...so if we reflect back to Blanche's generation, my mother was in between, things have really opened up but we still have a lot of work to do and all of us who have managed to get in positions of leadership, I think we have a special obligation and responsibility to be out there, to be role models, to be advocating for getting the best of everybody and, again, for me, it's women because I see such an important need and because I can speak to that.

Maureen: Do you think we've left anything out?

Sherri Brown: Gosh, what haven't we talked about?

William Fischetti: Well, thank you very much.

Sherri Brown: Oh, great, appreciate it.