Interviews of the Margaret MacVicar Memorial AMITA Oral History Project, MC 356
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Martha Casey – class of 1968

Interviewed by Callie Kunz, class of 2023

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MIT Libraries

Margaret MacVicar Memorial AMITA Oral History Project

Martha Casey (PhD Chemistry 1968) was interviewed on July 1, 2020 by Callie Kunz (SB Computer Science/Neuroscience 2023) via a videoconferencing app, a few months into the course of the COVID-19 pandemic. Dr. Casey was at her home in Madison, Wisconsin and Ms. Kunz was at her home in Woodbury, Minnesota.

Dr. Casey grew up in a family of social scientists and had little exposure to chemistry. Although she started out as a political science major at Bryn Mawr College, Dr. Casey was drawn in by her first collegiate chemistry course, and ended up becoming a *magna cum laude* graduate in chemistry.

When she arrived at MIT in 1964 to pursue her doctorate in organic chemistry, Dr. Casey recalls that there were approximately 300 women students, compared with the 7,000 male students then on campus. One of Professor Daniel S. Kemp's first graduate students, her research focused on the relationship between reactivity and selectivity in chemical reactions. She met her husband, Charles Casey (who years later became president of the American Chemical Society), in a neighboring lab at the Institute.

Following the completion of her PhD, Dr. Casey and her husband relocated to Madison, Wisconsin, where Dr. Casey worked for several years as a postdoctoral researcher in the University of Wisconsin-Madison's Chemistry Department. But because of "nepotism" rules common in academia at that time, both Dr. Casey and her husband could not both be faculty members in that department. As a result, following the birth of their daughter, she assumed a series of increasingly senior administrative positions at Wisconsin. As noted in this oral history, over the course of nearly three decades, she contributed significantly to academic planning and policy analysis at the university, steering everything from program reviews to studies on gender equity in salaries. Prior to her retirement several years ago, Dr. Casey held the position of Assistant Vice Chancellor for Academic Planning and Analysis at UW-Madison.

CASEY: Callie, did you say you're a sophomore at MIT? That you just finished your freshman year?

KUNZ: Yes.

CASEY: Will you go back [to MIT] in the fall? I know you were supposed to ask me questions, but I'm very interested. Is it worth going back? Are they having enough classes?

KUNZ: I'm going back. I decided to get an apartment off-campus. MIT actually hasn't said what they're doing yet. We're supposed to get news the week of July 6 regarding who is probably going to be able to go back, what housing is going to look like, and what the semester is look like for the fall.

As of right now, all we know is that we have two semesters, and that, at most, 60% of the student body will be allowed back in dorms—probably less than that, because they're only doing singles. It's still up in the air. But I decided that I wanted to go back to be around friends who are going to be in the area, and to be with other students, instead of being at home, where it's easy to get distracted when doing the coursework.

KUNZ: McCormick is still there, yes. Baker is right next-door to McCormick.

CASEY: In my day, the women [students] were only allowed in McCormick. McCormick was only about a year old, so that was it!

What are you mainly interested in? Do you know yet? You've only finished your freshman year. What did you take your freshman year that was interesting?

KUNZ: There is a brand-new Neuroscience and Computer Science interdisciplinary major—that's what I'm doing. I took the Intro to Neuroscience class as well as the Intro to Computer Science class during my first year. I didn't take a lot of exploratory courses, but I started doing the undergraduate research program in the McGovern Institute, which is part of the Neuroscience Department. I've been doing research with one of the labs there. It was really interesting for me to get introduced to the field that way.

CASEY: Already, as a freshman?

KUNZ: Yes. With the Undergraduate Research Opportunities Program [UROP], it's easy to get into a lab as early as first semester of freshman year.

CASEY: That's amazing—that's great! Had you taken computer science courses before you got to MIT?

KUNZ: I actually didn't, so it was my first-ever formal computer science training in the fall, which was a bit overwhelming at first. I think that that's why I don't think I could ever do a full computer science major. I'm using it more as just a supplement working on neuroscience-related topics.

CASEY: Right. When I was at MIT, in prehistoric times, we had to learn Fortran. I was a graduate student, but I didn't know any Fortran. We had to use these cards! [LAUGHS] But in retrospect, I'm so glad that MIT made me do that. Ever since, in all the other things I've done, I've understood the basic idea behind what computers are doing and what you have to do to get it right. You've got to have your commas in the right place and all that. I've worked with a lot of educational administration people who don't seem to understand that.

KUNZ: Right. I definitely feel the same way. Having any sort of computer science training is going to be a plus.

CASEY: Oh, yes—in any kind of thing. Even if you want to do university administration, which is what I ended up doing mainly, it's going to be essential.

KUNZ: Well, circling back a bit, I wanted to say thank you taking this time to speak with me. I know our oral history program tried to set this up a couple of years back when you were in Boston, but the timing didn't work out. I'm really glad we could do it this time.

I'd like to start out by asking what your childhood was like. Did you have role models were influenced you in your interest in—and affinity for—STEM subjects growing up? Were you interested before you were in high school?

CASEY: No. That would be the short answer.

I come from a family of social scientists and school teachers. My dad was a historian and a sociologist. My mother was a teacher. Both my brothers are now professors, but they're both in the humanities and social sciences.

I was sort of the 'unusual' person. I did want a chemistry set when I was about 12 years old. We didn't call it "STEM" in those days. But I had an unusual high school career that included living in India for a year. So really, I wasn't interested or introduced to science until I went to Bryn Mawr College, which is where I was an undergraduate.

KUNZ: Did you plan to study chemistry when you applied to Bryn Mawr? Or did you just choose it when you were there?

CASEY: I was a political science major, I thought, but I took chemistry to fulfill a science requirement. I thought would be interesting to take chemistry. I don't remember quite why. But I liked it so much, I decided to switch to a chemistry major. The chairman of the Chemistry Department would always kid me saying he mainly had chemistry majors who switched to poli-sci because science was, quote, "too hard." But I wanted to go the other way, so that's what I did.

Bryn Mawr is well-known still for encouraging women to go into science. I don't think your generation has this so much, but Bryn Mawr and others had the idea that if you were in a coed situation, you were less likely to choose science. You know about that idea. They had a lot of women who went into science and medicine and encouraged students to do that if you were at all interested. That was another factor in my decision.

KUNZ: Why did you choose Bryn Mawr in the first place? Was it because of their poli-sci program or the fact that it was a single-sex school?

CASEY: In my day, MIT, Princeton, Amherst—all of those colleges—did not accept women. I chose Bryn Mawr because of its academic credentials and standards. It's the only one of the Seven Sisters that has a PhD program. I think they need to cut back now and have some, but that's another story. But they had a PhD in chemistry, and they were well-known then for their academic standards and their promoting women.

But if you were interested in serious academics, like you are yourself at MIT now, you often chose one of the Seven Sisters. And I grew up in New York state; the Seven Sisters were very prominent [in the thinking there] then.

Oberlin and some of those were already coed. But they weren't considered as much by academically-inspired women, I think.

KUNZ: When you were at Bryn Mawr, did you have many professors who were women? Or were they mostly men?

CASEY: Well, in the humanities and social sciences there were women professors. The chemistry department at that time had no women. The biology department did have some women, but not the chemistry department.

KUNZ: Would you say, looking back, that Bryn Mawr provided good preparation for you to then go into graduate work at MIT?

CASEY: I have two answers. One is, for academics, yes, I think probably, although there were a few problems there, too. But, of course, socially it was a big shock.

Bryn Mawr's an all-women's college. We did very little with Haverford [the nearest men's college]. You didn't see many men. And then, to go to MIT—

At the time I went to MIT, there were about 7,000 men and 300 women in total (graduates and undergraduates). Mrs. McCormick was in the very first of the women to study at MIT. But MIT was not a woman's place at that time.

[Katharine Dexter McCormick ’04, a suffragist, philanthropist and influential member of the MIT community, funded most of the research needed to develop the birth control pill—as well as the construction of McCormick Hall, a women’s dorm that enabled the Institute to admit many more women students.]

So that was an adjustment. Bryn Mawr was very, very good. But I think institutions, still, that are smaller had limitations in use of high-tech equipment and a sense of being involved in ground-breaking research.

I wasn't as well-prepared as I might have been in some areas. For example, I had to learn a lot about nuclear magnetic resonance (NMR), which was relatively new. I'd never seen an NMR. But people at MIT said things like, “Oh, yeah, you've got to take an NMR.” There was that kind of issue, but I could overcome that.

KUNZ: Right. You said that Bryn Mawr did offer a PhD program. Why did you choose MIT over Bryn Mawr for your PhD?

CASEY: Well, even now, the academic tradition when you finish your undergraduate work is that you don't go to the same institution for your PhD. Bryn Mawr didn't even consider encouraging me to do that; they wanted me to get experience at another kind of institution, certainly one that has a more robust program like the one at MIT. One that’s more famous, with more opportunities. So Bryn Mawr very much encouraged me. I applied to several programs. My second choice was Yale.

The people in Bryn Mawr’s PhD program tended more often to be women who were returning to school or were geographically constrained. But their own undergraduates were encouraged to go elsewhere.

KUNZ: When you were applying to MIT, was there anything that you remember about the admissions process that you thought was interesting or different for you as a woman applicant? Or anything you recall thinking about applying to a male-dominated school?

CASEY: Not so much. I think your generation is much more conscious of this kind of thing. I didn't think about this issue much. I did visit MIT in person. I was very interested in chemistry and had read the journals, so I knew who several of the faculty were and what their research was about.

Now, for example, [the University of] Wisconsin brings graduate students in and tries to Interest them in Wisconsin. In my day, it was more 'you beg to come,' and they would see if they had a little time for you. They were busy with their own teaching and research. I don't think that was particularly just for women; I think it was for everybody. "You want to be a graduate student? Here, we're a famous program. You come and try to convince us that we should take you."

KUNZ: Right.

When you arrived at MIT after being accepted to the PhD chemistry program, I understand that you were one of Professor Kemp's first students. [Daniel S. Kemp, late MIT Professor Emeritus of Chemistry; focused on the synthesis and conformational analysis of peptides.] Do you remember how many women were in your lab, what the experience was first like transitioning to that environment, and what Professor Kemp was like to work for and learn from?

CASEY: Well, Professor Kemp had three of us in his first group of students, and two of us were women. One was a woman who had just come from Taiwan, Shen-Wei Chien ("Edith" Chien Wang, Chemistry PhD 1965), who is still a good friend of mine. I don't know what Kemp really made of us. [LAUGHS]

At the same time, my husband [Charles Casey, Organic Chemistry PhD '67; Professor Emeritus of Chemistry, University of Wisconsin, Madison; 2004 President of the American Chemical Society] was the first student of George Whitesides [Former MIT Professor of Chemistry; currently Harvard Woodford L. And Ann A. Flowers University Professor at Harvard; best known for his work on the Corey-House-Posner-Whitesides Reaction]. George Whitesides is now a famous chemist at Harvard. Chuck was his very first student. Chuck was a year ahead of me. I would say that our experiences with Kemp and Whitesides were more similar than different in many ways.

Looking back on it, the main issue wasn't so much being a woman. The main issue was Kemp learning what to do with graduate students and we were learning how to interact as graduate students, which is different from being an undergrad. I think it'll be less different for you because you will have done research already, but it's a big change.

Working with Kemp as a young professor setting up a lab was different from if I'd gone to a big lab that was already set up.

KUNZ: Right. Of course.

CASEY: Some of the advantage was that if he wanted us to get something done, he had to figure out how to work with women. That worked out OK—sort of OK. He was a very unusual personality. Sadly, he just died recently.

KUNZ: I read about that. That was so recent.

CASEY: I took that picture of him with his bird that they had. [REFERENCE TO PHOTOGRAPH OF PROFESSOR KEMP, WHO DIED SHORTLY BEFORE THIS INTERVIEW WAS CONDUCTED]

Anyway, he stayed a good friend of mine all my life. And interestingly, I think the two of us that were his first women students have remained, in many ways, the closest to him over the many years, until he died at 83.

We called him on his birthday and did things like that and kept in touch. He seemed to like and enjoy that. When I would go to Boston, even up to the time I took the picture a few years before he died, he was always very anxious to see Chuck and me. We had a good relationship over our whole life.

KUNZ: That's great.

Were there any moments that stand out about your experience studying organic chemistry at MIT and getting your PhD? And, in layman's terms, what was your thesis about when you're working with Professor Kemp?

CASEY: Well, Kemp is mostly famous as a peptide chemist: how to make proteins. I was more interested in physical organic chemistry. What I was studying was an offshoot of one of his interests in that area that related to peptide chemistry.

But what I was looking at in a very broad sense was, what was at the time called the "Hammond's postulate." [A hypothesis in physical organic chemistry which describes the geometric structure of the transition state in an organic chemical reaction.] But that doesn't matter so much. What the issue was is whether chemical reactions, if they're faster, are they less selective? More is known about that now. The general issue was: What is the relationship between reactivity and selectivity? We had a model system that was based on some of his peptide derivatives that we used to study this.

KUNZ: Were there any moments that stood out from studying with him?

CASEY: I have a lot. One thing—and the reason that I've stayed such a good friend with Kemp over the years, too—is he was a real renaissance man. He was a very diligent and excellent chemist, but he was interested in all sorts of subjects. Some of my most interesting memories of him really are some of the conversations—the amazing variety of things about which I talked to him. I've always been interested in opera, for example. Well, he was interested in opera too. He was also interested in restaurants in Boston and all sorts of other things. If we were talking chemistry, we'd really stick to that subject. I tended to work late at night, and he would sometimes come by; he worked late at night, too. That's when we'd talk.

KUNZ: Would you mind talking about how you met your husband, who, as you've said, worked in the Whitesides lab?

CASEY: Oh, sure. We wrote an article about this that was published in the Chemistry Cepartment's publication few years ago.

Chuck was Whitesides' first student, as I said. And the Chemistry building that now is at MIT wasn't built then. We were in the old part of MIT, and Whitesides was across the hall from me. Naturally, I ran into him.

Chuck always says that—I can't remember this for sure—I was at MIT two years before he got the idea he would ask me out for a date. But we did go. In those days, you actually went on dates. I wanted to see some obscure foreign film, I can't remember the name. That wasn't his first choice, but, OK, he agreed we'll go to it. It turned out to be down by the Boston Garden, which at the time was a "you didn't go there" part of Boston. But that's where the movie theater was because it was the place for foreign films. Most of our subsequent dates were going down to the machines in the basement of the building and getting a Coke. That's how you met people. You spend so much time in the lab that it's who you're going to meet. I don't know what it is like now.

At one point, we broke up, and people even put up signs in the elevator, "Are Chuck and Martha going to get back together?" But we got married right when I finished my PhD (he finished a year before I did), and before we were departing for [the University of] Wisconsin.

KUNZ: I believe you said in another interview that, as a PhD student, you were only allowed to be a TA as a grader, while men were able to be discussion leaders. Could you talk about that? Did you ever try to bring that up to the powers that be?

CASEY: Oh, yes. I was a determined Bryn Mawr graduate. Our founder at Bryn Mawr was M. Carey Thomas [the college's second president, a suffragist and a linguist] who said "Only our failures marry." They taught us at Bryn Mawr to be aggressive on the issues we cared about, I guess.

So yes, I did pursue the issue. And the year after I was a grader, the department started letting women be teaching assistants instead of graders. I told you the ratio of men to women in my era. They thought that if I was a TA, I would certainly have class of all-male MIT students. "You know them. They're not always easy to manage." Again, the department were trying to do the right thing: They thought that it would be difficult for women to have a section of what would almost surely be all-male undergraduates. That was why they claimed they had this policy.

KUNZ: That's so interesting to hear, because in my experience from this past year is that a majority of TAs were women. I'm not sure if that's just because I was taking a very broad range of courses. But it is very interesting that you see a majority of our grad TAs are women now.

CASEY: Oh, that may be in neuroscience. I think that's a field that women have done well in. Did you still have mostly women in computer science?

KUNZ: I feel like you still see a pretty good balance. My intro course was taught by one female professor, one male professor, so it wasn't just men. But there probably is a larger percentage of men in a computer science major at MIT, which leads to a lot more grad students as men here as well. But it is definitely getting better [for women].

CASEY: Well, the women that were at MIT at my time were mainly in food science and things like that. Nobody was in electrical engineering. Chemistry was a transitional area for women, to some extent. And computer science wasn't really a developed discipline. I've forgotten if they even offered an undergraduate degree.

Now, things have changed. If you told me that MIT would have a woman president in my lifetime when I was a student, I would have said, "No, no, you're absolutely crazy." The undergraduates are now 40% women, I think?

KUNZ: I want to say we're 47% women, 53% men right now. And every year, they try to even that gap still further.

CASEY: OK. Well, that would have been unheard of. I think that the change over time has been totally amazing.

KUNZ: It definitely is. I remember when I was first looking at MIT, a friend of our family—a chemical engineering PhD—had been through talking with lots of people from different fields. When I had first mentioned that I was interested in MIT, she was like, "Oh, that's not a good school for women." I thought that that was very interesting—and now the ratio is so even. But I guess when she was looking at schools, even 20 years ago, it probably still did not have anywhere near the representation that women have right now at MIT.

CASEY: I don't know exactly how all that has changed so dramatically. I guess the graduate students are still predominantly men, but yes—that has changed a lot.

KUNZ: Going back to talk about your experience at McCormick Hall, was that a good space for you as a grad woman to interact with other women at MIT? Was there a helpful community of women in the dorm?

CASEY: Oh, that was great. You're very adventurous getting your own apartment. But it didn't occur to me that I wanted to get my own apartment. One thing was the fact that McCormick it was new, it was gorgeous, it was near MIT—it was walkable distance to the entrance. All of that was good.

There was a cadre of the graduate students who often had tea at the end of the day together and things like that, so it worked out very well for us. We interacted some with the undergraduates. There weren't enough women undergraduates to fill McCormick, so they let us live there one year. But it worked out very well for us, I think, having a group of women graduate students together, even though we were in different fields. The second year, I had to move to Ashdown House. MIT was already accepting more undergraduate women and wanted McCormick to be available for them.

KUNZ: I understand that you've remained friends with another grad student, Louise Foley, who became a chemist and a professor. In her oral history for this project, she spoke very fondly of you. In fact, she mentioned remembering a presentation you had to give, and how Professor Whitesides asked you difficult questions. Professor Foley said that you gave wonderful answers and basically stopped him in his tracks. Do you remember that?

CASEY: [LAUGHS] I don't remember that! Stopping Whitesides in his tracks would be quite something. Again, I had had the idea I would answer no matter what. He was only a couple years older than I was, as he came to MIT as a boy wonder. So even though the status and sex differences were there, he was young, which made a difference.

One advantage I had dealing with Whitesides and Kemp, both of whom unbelievably smart, was that I was young and didn't hesitate. Today, I'd be afraid. [LAUGHS] Not really, but be more hesitant. The two groups had a seminar together. And Whitesides' group was all men, so that gave some balance with Kemp's group.

Neither prof was going to hold back on asking you questions because you're a woman. No, that was the opposite of how it was. [LAUGHS] With all of the students, the goal seemed to be, "Let's see where we can get them to the point where they don't know the answer anymore." So, no, I don't remember Louise's example. Louise and I still exchange Christmas cards, and I've always enjoyed knowing her. She was a year behind me. In that time, we were few women, but there were enough that we had somebody to talk to.

KUNZ: Well, now that we've covered some things about MIT, I'd love to transition to your experience moving to Wisconsin. I know you've spoken of this before, but when your husband accepted a position teaching chemistry at Wisconsin, you both moved there. Would you mind explaining how he became a professor, and how that limited your opportunities as a young chemistry academic given the anti-nepotism rules at that time? I should say that I've read that your husband—including during the years when he led the American Chemical Society—very much supports programs since aimed at promoting the advancement of women in chemistry. Also, that he regretted his decision to accept the position without checking with you first.

CASEY: I don't know. Again, I think with all these issues, the times were just so different that everybody assumed it would be that way.

I wanted to say one other thing about MIT, or ask you. One thing that helped me a great deal was the Cheney Room [the Margaret Cheney Room, 3-310, which was founded in 1884 and promotes community among women students at the Institute]. Does that still exist? It was on the third floor of the main building. It had a lounge and even had places one could lie down, and it was only for women. MIT did that. I think they recognized through that that women could have special needs. One could even sleep there if you lived far away, and it also had a small kitchen. That was tremendously helpful to me. Maybe women students don't need that anymore.

KUNZ: I think it still exists, although I've never used it. I'm going to look into it.

CASEY: I think it's an interesting tribute to the fact that the woman who was the dean of students at that time supported and expanded it. MIT had to give up several prime real estate [rooms] to accommodate it, and it made a big difference to a lot of women.

Going back to MIT again, before we left for Madison. Chuck was a year ahead of me, and he was looking for an assistant professorship. At that time, I wasn't quite so sure what I wanted to do. Chemistry had interviewers come to MIT. I did interviews with several industrial ones—DuPont was one. The recruiter said to me—in that day, they just said the following—"You realize that we would hire a less qualified man over a more qualified woman because we know that women will have children and drop out." He had no problem saying that. I guess he thought he might as well tell me the truth. [LAUGHS]

That's what the atmosphere was at the time. Also, most people postdoc for at least a year. Chuck did a postdoc for a year at Harvard while I was finishing at MIT. So if I'd just gone the "regular route," I would have become a postdoc at Wisconsin. I wasn't ready to interview as an assistant professor. But, I think, honestly, the MIT Chemistry faculty didn't know quite what to do with women graduates. They were happy when I got married—my case was resolved because I was going to Wisconsin. [When I came to Wisconsin, I did postdoc for a year. And shortly after that, our daughter was born. After that, I continued to work part-time for several years as an associate scientist.

But, yes, the Chemistry Department in Wisconsin made it very clear from the beginning that they aren't going to take two people in one family. In contrast, now the University has a program with special funding for spousal hires. The University has realized that, to get talented couples, they have to work on spousal hires. That was maybe 25 years ago, but it wasn't that way in my day.

I needed to find an alternate career. The chairman of the Chemistry Department, who actually became the chancellor at Wisconsin—that's the person that runs the university—helped me. He thought I should apply to the school of what was then "Home Economics," now called "Human Ecology."

Irv Shain thought I should apply because they wanted a textile scientist of some kind. But, again, I had the problem because they wanted someone who had done a PhD in textiles, not someone who was a physical organic chemist. I ran into that problem, too—that my background didn't fit the niche that they were looking for.

I continued as a postdoc and then an associate scientist for a few years. And then because of events in our personal lives, I realized, "Hmm, I had better figure out an alternate career for sure."

KUNZ: How was that transition, from working in chemistry and then moving to university administration? What motivated you?

CASEY: Well, it was partly this thing that I couldn't get a job other than one on soft money in the chemistry field. I was interested in getting something that could be a permanent job. I did look at a lot of different places. I worked in the School of Pharmacy for a couple years. I looked there and various other places.

Another reason was that shortly after we moved to Wisconsin, my husband had a problem with malignant melanoma, a kind of cancer that starts with a black spot. If you catch it early, it's fine. But his was already starting to spread when they caught it, so they did extensive surgery to remove it. He was OK for about five years, but in 1975, he had a recurrence. It's a long story, but to put it in one sentence, in 1975, the doctors told me he'd probably live one year. I was making about $5,000, working part-time because our daughter was still young.

So life told me, “OK. You better think of plan B. I'm very much in favor of open advertising for jobs, but the way one found positions in those days was almost exclusively through networking. I still think it helps tremendously even now. But as I said, I knew the chairman of the Chemistry Department, who was then the provost at Wisconsin, so I called up Irv Shain. I think I wrote to him first, but I talked to him on the phone. I said, “I would like to have a job doing something in your office.” And he said, “Well, we're working on the '75-'77 annual budget that goes to the legislature.” Wisconsin's a state school, and the state support, especially in that day, was tremendously important. He said, “Well, are you available Tuesday? We're putting together this budget and I need somebody to write proposals for it.” So I went to the administration, and I stayed. Irv encouraged me to try to have a role in the Chemistry Department for a while, and I did. I taught some chemistry lab courses after I started in the administration. But it was too much. I couldn't--

KUNZ: Couldn't balance it.

CASEY: I found I couldn't do both. I didn't have a lab of my own and an active research program. I think women—the former president of Princeton [Shirley Tilghman, a molecular biologist who was the first female president of Princeton (2001-2013)] and women like that—by the time they became president, they already had a successful lab and teaching program.

That wasn't my case, and most of the people that go into upper administration, the chancellors and provosts, I don't find that they're very successful in remaining active in research once they’ve made that transition.

KUNZ: Did your training at MIT and Bryn Mawr prepare you to work in high-level administrative positions, which you came to do, rather than in chemistry?

CASEY: I've given talks on that, too. When I talk to young women chemists and women in other similar areas, I say that it's very good preparation. The area of the administration that I was in, which was institutional research and analysis—I did some budget work—is the most analytical part of the university administration. One of the chancellors used to call my office the "think tank." My role just evolved this way, I think because of my background and ability in analysis.

We did a lot on student enrollment patterns, for example. You're looking at how students move through the university. Well, roughly the mathematics involved isn't that much different from reaction kinetics. I mean, you learn that you need to figure what are the inputs, how long they stay, how quickly they finish. A lot of the analysis is similar.

But beyond that, it's a little harder to explain. I do think a chemistry background trains one for rigorous thinking. I really feel that strongly. One way to tell you about this is, by the time I got to the point where I was hiring my own staff (I had about five analysts who worked with me by the time I retired), to know what background worked well. I quickly found out that the people that were good at what is now called "data science," were the people in STEM disciplines.

The woman who took over for me is now a vice provost at Wisconsin. She's a biochemist. I had a variety of people that worked with me: a very talented sociologist, somebody who studied Chinese literature, and others. Anything that really teaches you how to set up a hypothesis, how to question it, how to figure out whether it's right or not, is useful. Changing to administration is a learning curve, but can certainly be done.

KUNZ: It's easier to learn how to problem-solve when you're already used to it through STEM education.

CASEY: At this time, also, it was hard to find people that knew how to use a computer really well. I'd look for people who would be like you, Callie. Just even how to run a computer was an issue in our day! [LAUGHS] But how to access big data sets, how to work with big data sets, how to organize data, is what we needed to do. Then we began to compare with other major research universities—MIT is one of them—that belong to the AAU [the Association of American Universities, which is composed of the 63 leading research universities in the Unites States and Canada] regarding patterns in faculty recruitment and retention, cost, student retention and much else. All of this depended on a rigorous analytical background.

KUNZ: I know you held a variety of increasingly significant positions at the University of Wisconsin after working as a research chemist in the Chemistry Department and the School of Pharmacy—from being a member of the Office of Budget, Policy and Analysis preparing budget proposals and the like to staffing the university's Academic Planning Council, and culminating in your serving as Assistant Vice Chancellor for Academic Planning and Analysis, the position you held until you retired a few years ago. You clearly accomplished a lot during those years, but can you say what you consider to be some of your most valuable work that you did during your years at Wisconsin?

CASEY: [LAUGHS] When I came to the university, they didn't have anybody that ran an operation like I ended up heading. I really got analysis and institutional research going by myself. So I'd say getting the university on the track to use data and analysis in decision-making, and figuring out how to provide what was needed was very important.

There were other many significant accomplishments along with that. We helped get the UW-Madison faculty a big raise one year by comparing their salaries with those of peer universities. We figured out that Madison salaries were really behind those at peer universities and developed analysis system for proving that.

What we had to worry about at that time was establishing that the salaries at UW-Madison had to be different from the salaries at other UW System institutions because we were in a different market. That was not an established principle at the time. UW-Madison salaries would be based on comparisons with other Big 10 and major research universities. Enough of that?

KUNZ: No, it's really interesting—and important.

A while back, you mentioned your daughter. Can I ask you how handled work-life balance issues as your daughter grew up, and as you switched from being a postdoc to then working into administration? Do you think the juggling improved over time for you?

CASEY: Administration was easier than chemistry in some ways: I could take work home with me. I don't know what your lab work is like, but with my [chemistry] work, you really had to be in the lab to do it. There were reactions one had to look at in the middle of the night.

Another big thing was the instrumentation. It was often hard to get on the instrumentation during the day. It was easier in the evening. Also, it was technically easier because the administration has fewer hours where one must be in the office.

Child care was huge issue for me. I was on the first university child care committee here in Madison. I'm leaving some of my money in my will to child care because I think it's so important, especially for anybody in a STEM discipline. It was very hard to get child care in anything except a private arrangement, and that was a problem. The university now has many child care centers, though some problems remain.

The one problem that's still hard to solve—and we had problems, too—was the 'sick child' problem. I remember lots of discussions with Chuck about who has a more urgent commitment and who could stay home with Jen on a sick day. There are problems, but one figures out how to solve them. I hope that's easier these days, too.

KUNZ: Based on the decades you were a senior administrator at Wisconsin, is there anything you think universities still aren't doing in terms of helping women?

CASEY: Well, we still need more funding for child care. I'm working on that still. We've been seeing with the pandemic how it's very hard on women because the child care centers are closed. I haven't kept up to date entirely, but there's certainly more need in the child care area.

I'm pretty outdated on how things like spousal hires and delaying the tenure clock are going. Wisconsin has all those programs now that didn't exist in my day.

I know that our UW-Madison chemistry department, for example, had Laura Kiessling, [B.S. Chemistry 1983; MIT Professor of Chemistry investigating reactions relating to cell surface proteins] who's now is in MIT's Chemistry Department. She was one of our outstanding role models in chemistry, and she's a tremendously successful chemist. I still think we probably need more good role models. But I think one problem now—and I don't know how we solve this—is women don't want to take tenure-track positions because they know that they're very high pressure. To a certain extent, the men don't either. But for women in particular, I hear stories about difficulties recruiting them because they don't want to take anything on that they know is as high pressure as an assistant professorship at a major research university. Again, men, to some extent, cite this issue also.

Work-life balance is much more of a factor than it was in our day. Chuck always routinely worked 60, probably 80, hours a week, and I had to pick up more of the other duties to help him. You have to have one person in the family who takes the major responsibility for running the household. That still is mostly the women, although one thing I think is that change is coming. For example, my doctor has a husband who is staying home. I know of a number of others, too, such as one of the women currently in our chemistry department.

The fact is that society is accepting such arrangements better than before. Chuck would always say to me, "If I stay home and you work, everyone will say, 'What's wrong with Chuck Casey?' If you stay home and I work, everybody thinks that's the way it should be."

Times are changing. Some men feel more comfortable as the person who takes on most of the household responsibility. The few women I know about that have been college presidents and that kind of thing.

But don't worry about that now, Callie! [LAUGHS]

KUNZ: Are there any other things you want to add about your experience at MIT, being a woman in STEM, your career in administration, being a mother who also balanced a job? Or any advice you have for younger women like me?

CASEY: One thing is that your STEM background, regardless of what you do, will be helpful to you. For example, a lot of physicists become tremendously successful stockbrokers. I would certainly encourage women to hang in there, even if you don't end up being a neuroscientist, though I think you will be.

The other thing is that the MIT experience gives one confidence. In all my years in administration, I never thought that there was an analytical problem that was too hard to solve. I never thought that there was something that was too difficult to work on, to solve, to get data for, to see a solution in the data. I think that's pretty important in whatever you go into. MIT teaches that one can do this.

What I learned in STEM, too, was that there's going to be some things that you just can't intellectually encompass, and when that happens, one has to turn the problem over to experts who do know what is involved. I certainly learned that at MIT. One example is when I was a first-year at MIT. I went into George Whitesides' physical organic chemistry class, and he wrote the Schrödinger equation on the board. He said, "Let there be light," and he went on to talk about quantum mechanics that, to this day, I don't fully understand. I think that's important in being successful to actually see that in real life, there are things that you can't do, that you can't understand—and that it's time to turn it over to somebody else. [LAUGHS]

KUNZ: That's a great point! I feel like I run into that in certain classes now, even taking intro courses, where I think, "I can see what's going on here, but sometimes things just don't always make sense. I'm just going to leave that to people who want to be physics majors or things like that. I'd rather focus my time somewhere else."

CASEY: If you've learned that already, that's great—I think MIT definitely teaches you that.

I'm trying to follow the coronavirus science now. I heard five MIT experts give a virtual seminar recently. And, again, I understood the main point of all of them, but some specifics went over my head. You've already learned when to accept that, so that's great.

KUNZ: Is there anything else that you wanted to add?

CASEY: I'm very grateful I got to go to MIT, even though it was pretty challenging at the time. I've always had—both of us, Chuck and me—very great respect and fond memories of MIT. It's not an easy place to be. But when you get through, you--

KUNZ: It’s something to celebrate what you get through it, for sure!

CASEY: Yes. And this is ridiculous, I don't do this, but if people at cocktail parties introduce me saying that I have a PhD from MIT, others immediately think, “Oh, she must be smart.” [LAUGHS] Wrong!

Our daughter is always pointing out every time we get a new whatever gadget of some kind or some computer thing, my husband and I look at each other and neither of us can figure out how to use it or what to do. [LAUGHS] Jen says to us, “Come on. Two MIT PhDs, you can figure this out!” “No, we can't!” [CONTINUES LAUGHING] That's age, not so much education. But anyway.

Are you doing something else this summer?

KUNZ: All my learning is online. I'm continuing doing my neuroscience research from home, because I'm able to use a remote desktop connection. I can access my computer on campus from my laptop at home.

CASEY: Do you have enough data to analyze that you can do it at home? You're not doing lab experiments?

KUNZ: No. We’re working with macaque monkeys. We're doing an analysis of electrophysiology data. Our postdoc is on campus, currently running trial sessions with the monkeys. I’m a part of something like 10 undergraduate students who take in that data and is able to do our own analysis at home. I'm doing stationarity analysis of electrophysiology data and firing rates of neurons that they detect to try and determine if we're detecting more units than our current sorter of neurons is giving us.

CASEY: And what you’re doing to the monkeys is to try to see what the--

KUNZ: Yes, we are putting the probes in. Then they're following a visual task where they're shown dots that are moving. They have to press a button when they see that dots are moving in a different direction. The goal of the project is to establish if there is a connection between the prefrontal cortex and the visual areas of the brain, so they're using optogenetics. It’s a new thing, where you inject a virus into brain tissue. Then, when you expose it to a specific wavelength of light, it will inactivate those neurons. They're testing whether or not the response is similar or different when areas of the brain are inactivated during the task.

CASEY: It's not this issue of how much monkeys are human-like.

KUNZ: No. It's more just using the monkeys as a model system for how their brain regions interact, and how we can apply that to, then, what we know about humans.

CASEY: Will you take chemistry?

KUNZ: I took the introductory chemistry course this spring. I was deciding between chemical engineering and neuroscience, and decided to do neuroscience over chemical engineering. I was this close to taking all the other chemistry courses!

CASEY: Well, thank you so much for taking your time speaking with me, Callie.

KUNZ: It was wonderful talking with you. I really appreciate your willingness to participate in this oral history project.