

Interviews of the Margaret MacVicar Memorial AMITA Oral History Project, MC 356

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Carol Tauer – class of 1963

Interviewed by Madeleine Kline, class of 2020

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Margaret MacVicar Memorial AMITA Oral History Project

Dr. Carol Tauer (PhD Mathematics '63) was interviewed on November 10, 2017 by Madeleine Kline (SB Biology and Chemistry '20) at Dr. Tauer's home in St. Paul, Minnesota.

Dr. Tauer grew up in St. Paul and joined the Sisters of St. Joseph, a Roman Catholic order that she left in the late 1970s. She studied music at St. Catherine University in St. Paul before switching to mathematics. Dr. Tauer earned a master's degree from the University of Minnesota and a PhD from MIT in 1963. After teaching math at St. Catherine, she studied bioethics at Georgetown University's Kennedy Institute of Ethics, earning a second PhD, in philosophy, in 1982. Dr. Tauer also taught philosophy and bioethics at St. Catherine and at the University of Minnesota. She was a member of the NIH Human Embryo Research Panel in 1994 and the Working Group on Pluripotential Stem Cell Research in 1999.

KLIN: Where were you born? Where did you grow up?

TAUER: I was born in St. Paul, and I went to St. Bernard's Grade School, which was a K through 8 grade school. And then I went to St. Joseph's Academy in St. Paul, which is a school that closed in the 70s, but we still have a very active alumnae association; a group from our class meets every other month for lunch. It was a girls' school, and so I think we got to know each other really, really well.

When I graduated there, which was in 1950, I entered the Sisters of St. Joseph. I did my Novitiate, which was two and a half years, did some college classes at the College of St. Catherine, and then completed my education at St. Catherine's with a major in music – which is what I was told to do by the order. At that time, we didn't choose at all what we were going to go into, we were just told. So I was assigned to Marshall, Minnesota, and I taught mainly piano lessons there for two years and some things in the-- There was a high school there, too.

And then after two years, I was visited by the head Superior of the order for the whole United States, and she said, "Well, we would like to send you on to study something, to teach at St. Catherine's." I guess they saw that I had the potential to do graduate work, but not in music, so she said, "I'm going to talk to the people at St. Catherine's and see what they need." Again, I did not have a choice. She talked to the dean there, who was a Sister, and she said, "What we need is someone in mathematics." I hadn't really thought of going on in mathematics. In fact, I had no undergraduate courses in mathematics at all.

None. I was going to start graduate work in mathematics without having had any undergraduate work in mathematics.

She said, "What we will do is we will give you a tutor for the summer, a Sister who has a master's in mathematics, and she will tutor you in enough math so that in fall you can start graduate school at the University of Minnesota," which is what I did. So she tutored me, mainly in calculus I would say, and then I started-- At the University of Minnesota, they had a lot of classes that were for both undergraduate and graduate students. You could be either. So I went to the University of Minnesota for two years and got a master's in math. And then, of course, I needed to get a PhD because I was going to be teaching in college. Then I was asked, "What school would you be interested in?" And, interestingly, my father – who was an accountant, who did not have a college degree – had always talked about how much he admired MIT. So I said, without knowing anything more about it, "I'd like to go to MIT."

I did the National Science Foundation application for fellowships. Because I already had a master's and had had to study for comprehensive exams for my master's and had done a lot of work getting ready for those, I did really well on the Graduate Record Exam that you needed to do to get a fellowship. I got National Science Foundation fellowships for two years there. They didn't renew it for the third year. The third year, I got one from MIT. I was just working on my dissertation then. But anyway, I had the National Science Foundation fellowship to go to MIT. They took care of all the expenses and a living stipend and everything. It was a really generous thing.

So I went to Boston. And for the first two years I was there, I lived at St. Aidan's Convent in Brookline. I don't know if you know St. Aidan's – it's actually the parish where John Kennedy's family had lived. They always talked about that; that his family went to church there. So I lived there for two years. And then the third year, while I was working on my dissertation, I lived in downtown Boston. The place was called The Cardinal Cushing House of Studies for Sisters. The address was 12 Arlington Street, which is right by the Public Garden, right next to the Ritz-Carlton Hotel. I don't know if it still has this function, but it was an old building that had been the Ursuline Academy, a boarding school. It was a place for Sisters to live who were studying at Boston, so there were many Sisters there who were studying. And then I got my PhD from MIT in 1963.

KLINE: Sorry, before you continue, do you mind--

TAUER: You want to know about my experience at MIT.

KLINE: Yes, but also even before then, you just mentioned you had a sister.

TAUER: Yes.

KLINE: So what was your family like growing up?

TAUER: I had a younger sister, three years younger than I, and a younger brother, eight years younger than I. Parents who were together, I mean they were together until they died, so we had an intact family. We were just an ordinary family, I guess. The things I did when I was younger for fun-- I did a lot of music, of course, otherwise I wouldn't have majored in music. I did a lot with piano, and in high school another student and I-- Music was a big thing at our high school, so we had every year what they called a concerto concert. And another student, another girl and I each played a concerto with members of the Minnesota Orchestra, which at that time was the Minneapolis Symphony – not the whole orchestra, but a group of them. We played concertos with this orchestra, and we did many, many solo things in music. So I did a lot in music, and I loved to accompany. And I did professional accompanying when I was in high school – accompanied vocal, recitals and that kind of thing. I was quite interested in music at that time.

KLINE: Did your sister also go to St. Joseph's?

TAUER: Mm hmm.

KLINE: Was it from your parents wanted you to go there, or was that your own initiative?

TAUER: No, not particularly. We had a public high school maybe two blocks from our home. They would have been fine with my going to the public high school, so I think it was more my choice to go there.

KLINE: Do you want to talk a little bit about that decision, or why—

TAUER: I don't know. I think I partly thought I'd get a better education. People would talk about going to the public high school-- Oh, it was so easy, and you could get credit for baton twirling and all kinds of things that weren't particularly academic. And in fact, most of my friends in school and other students went to the public high school. We had a very big Catholic grade school. We had nine grades, three rooms of each grade and probably 40 in each one. We probably had 120 in each grade. It was a really big school. And I would say it was probably about 12 students from my class who went to St. Joseph's Academy. None went

to any other private school, so it was kind of unusual. We were teased about ... oh, we were going to have to do a lot of homework, and it was going to be really hard. But I just thought I would get a better education there, and I was willing to work harder. And I really didn't know how much emphasis they put on music until after I got there. But that was good for me, too.

KLINE: And then the process of going to St. Catherine's from there – how much of that was your decision?

TAUER: Well, all the Sisters went there. The college was sponsored by the Sisters, and there were many Sisters teaching there at the time. So there wasn't really any question about where we were going to go for our undergraduate work.

KLINE: So as an eighth grader, you knew that you were going to go first to St. Joseph's and then to St. Catherine's?

TAUER: Probably, yes. If I had not entered the religious order, I probably would have gone to St. Catherine's anyway. In fact, at that time, St. Catherine's gave a full scholarship to the valedictorian of every high school, public or private. And I was the valedictorian at St. Joseph's Academy, class size 150. So I was given a full scholarship to St. Catherine's, which I then gave up because I entered the order. So then I didn't really go to college there for a couple of years.

KLINE: Why did you decide to join the order? What was that process like?

TAUER: That's pretty complicated. I think at that time it was not unusual. There were 15 girls from my class who entered the order at that time, so that was 10% of the class. It was not unusual. It was just one of the choices you could make if you wanted to give your life in service to God and the church. And I think also at that time most other Catholic girls thought of getting married and having a lot of children. If you didn't want to do that – if you wanted to do something more academic or more professional – it was probably better if you entered a religious order.

KLINE: That's so interesting.

TAUER: You were more apt to get a good education and not to be looking after 12 children. I'm going to pour your tea, just a minute. Do you use milk or sugar?

KLINE: No. Thank you so much.

TAUER: If you want something else to eat, just let me know.

KLINE: Thank you.

KLINE: So, to continue, your sister also went to St. Joseph's. Did she also join the order?

TAUER: No. She went to St. Catherine's. And she got married, I think, the summer after she graduated. And she has four children, four girls. She didn't teach for a while, while she had her young family. But then when the kids were older, she went back to teaching. She had actually prepared for high school English teaching, but she decided she wanted to teach elementary school, so she went back and got that certification. And she then taught first grade in a Catholic school, probably for about 20 years, until she retired.

KLINE: And she lives here also?

TAUER: Mm hmm.

KLINE: So your whole family's—

TAUER: And my brother lives here too. He was a financial analyst with Piper Jaffray. He went to St. Thomas Academy for high school, which is a boys' school, and the College of St. Thomas, which is now a university.

KLINE: So leaving St. Catherine's and the University of Minnesota and going to MIT, what was that cultural experience like?

TAUER: At that time, I think I mentioned, we were wearing a full habit, so all the way around the face and the veil and the black dress down to the floor. I think, in a way, people didn't think of us as very female; they thought of us as more non-gendered. When I was at the University of Minnesota, they were used to having Sisters there in full habits because a lot of Sisters got degrees there, master's or doctorates. In fact, when I was going there, there was a Sister getting her master's in chemistry. She eventually went to Berkeley and got her PhD in physical chemistry. Then there was another Sister getting her master's in history, and she also went to Berkeley. She got her PhD in history from Berkeley. So some got PhD's at the University of Minnesota, but they were trying at that time not to have everybody get their PhD there, because it would have looked kind of strange. So they were sending us to all different places at that time.

At MIT in the early 1960s, I was one of very few female students. In fact, I was the only woman in any of my classes, with the exception of a large topology

class composed mainly of undergraduates. But I never had a sense of being different at MIT because of being female or because of being a Sister.

The only two things I remember that were at all distinctive are these: One time, after I'd been there a couple of months, a young woman who was on the staff – she maybe was a secretary, I'm not sure – she stopped me and she said, "Could I talk to you?" And I said, "Sure, fine." And she said, "I need some advice." The thing she was concerned about is she had had a child as an unmarried woman, and she had given it up for adoption, which was the usual thing to do at that time. She could not find anything out about it at all, and she was very disturbed about this. She wanted to talk about this with me and just identified me because I was wearing a veil. I don't think she was Catholic, I think she just wanted to talk to somebody who could give her some comfort. And I got to be friends with her, and we went to museums and did things of various kinds. And the only other thing I remember is that another graduate student's name was Michael Arbib [PhD Mathematics 1963; Fletcher Jones Professor of Computer Science and a Professor of Biological Sciences, Biomedical Engineering, Electrical Engineering, Neuroscience and Psychology at the University of Southern California]. I've seen his name since. He's quite well known in some fields of mathematics. He stopped to talk to me one day and asked why I was getting a degree there [at MIT]. He said, "Was the Vatican going to be starting some kind of mathematical agency or something?" He was trying to focus on what this would mean in the Catholic Church. I said, "No, I'm going to teach mathematics at the college." We got to be friends, too. Those are the only two times I remember anybody specifically speaking to me.

My graduate advisor was James Glimm [MIT Professor of Mathematics 1960-1968; Professor at The Rockefeller University and NYU's Courant Institute of Mathematical Sciences; Distinguished Professor at SUNY Stony Brook; National Medal of Sciences recipient; former President of the American Mathematical Society]. I was in my 40's at that time, so he was a lot younger than I was. I think I was his first advisee. When I was working on my dissertation, I used to walk across the Mass Avenue bridge once a week and see him. He'd look at what I was doing and tell me if it was on the right track or not. And then he – after I got my degree – was somewhat interested in my future career. I had a yearlong research fellowship at the University of Toronto, and he got that for me. Then I got some other grants to do summer research, and he was at NYU during the summer, so I went there, I think, for three summers and worked with him. He was married at the time. I don't think he had any children then. And although he was from MIT, he always went to NYU during the summer. I'm not sure why. They had an apartment in Greenwich Village, and he invited me there for dinner

while I was there, so I did get to know him, in a way. But those are the only things I remember that were at all personal.

KLINE: I have a few questions. First of all, it sounds like you had a passion for music and that even though that was chosen for you, it was something that you were really passionate about.

TAUER: Yes, but I didn't like teaching piano. No. I didn't want to do that the rest of my life.

KLINE: But did you have a passion for mathematics, or was it something that developed?

TAUER: Well, I liked it in high school. I thought it was kind of odd that I was doing graduate work in mathematics when I didn't have any math as an undergraduate. That seemed a little peculiar.

KLINE: But you were good at it, right?

TAUER: Well in fact, while I was teaching piano in Marshall, Minnesota-- It's almost to the border going west, so it's quite a ways from the Twin Cities. One of the math teachers, a layman, had, I think, a nervous breakdown in the middle of the year, so they needed somebody to teach his classes. And although I was the piano teacher, I guess the principal decided I could teach math, so I taught first-year math and I taught second-year algebra (called higher algebra at that time) without having had any college math. I just taught those things from having had them in high school, because I was good at it and I could read what was in the book. It wasn't that hard. That might be partly why I was steered into mathematics – because I had taught those two classes. But I wouldn't say I had a passion for math. I just did it because it was what I was supposed to do.

KLINE: Do you think that having an aptitude for music makes you more inclined to mathematics?

TAUER: I don't, really. I am not musical in one sense. I can hardly sing on pitch. And I am not good at anything that requires really listening. I'm very good at reading music. I can sight read almost anything. I'm very good at music theory, music harmony. I'm good at all those things that are on paper. And I can play from that, but I can't play by ear. So in a way, I don't really have an ear for music. I have more an abstract approach to music, which is more like math probably.

KLINE: I'm a musician and people always told me that's why I was good at math. I don't know if that was true, but it's interesting.

Going to Massachusetts after having been in Minnesota for a long time, did you-- I've visited my sister three times here, and I think the people are very different here compared with Massachusetts.

TAUER: Well, the thing that was really different for me-- The Sisters of St. Joseph here [St. Paul-Minneapolis] are very progressive, and the first two years that I was in Boston, when I lived at St. Aidan's Convent, there were also Sisters of St. Joseph, but they were based in the Boston diocese. I considered them – I don't know if limited is the right word. They were not allowed to read the newspaper or watch the news on television or anything like that. They were not allowed to go anywhere without a companion. I could, because I had to go to school. But other than that, we weren't supposed to go anywhere without a companion, go in pairs. They weren't supposed to ever go to anything at night. It was partly the restriction imposed by the hierarchy in Boston. But to me, they were just very limited in their education and then in what they were able to do. So that was really, really different for me. And I wouldn't say I knew other Boston people, because any other people that I knew were at MIT. And they were from all over the country. So it was just that the Boston Sisters were so different. And then the third year when I was at that house of studies, the Sisters that I knew the best there were from Los Angeles, California. And they were very progressive, more even than we were. They were almost radical. And so I felt really comfortable with them.

KLINE: So you finished your PhD in three years there?

TAUER: Mm hmm. I already had a master's, of course. I finished all my courses in two years. And the third year, I just worked on my dissertation. I felt I needed to get it done. I didn't want to just be hanging around. And my advisor understood that, and he was really, really helpful. First of all, he was completely helpful in terms of choosing a topic. He didn't expect me to find a topic. He found a topic that he thought was doable. Are you a major in math?

KLINE: No, but what was your topic?

TAUER: Well, I can show you on the record of my publications – I got it published. The last three things listed under my publications [on my CV] are in math. This is my dissertation: "Maximal Abelian Subalgebras in Finite Factors of Type II." It's quite a long title, but a short paper. So that's my dissertation. The thing that it would be most similar to-- Have you had linear algebra?

KLINE: No.

TAUER: Linear algebra would be a very elementary step leading to that. So actually, in linear algebra, what you study is what a matrix is. It's an operator that does an action within a space. I'll just give a simple example: A 2 by 2 matrix that when you apply it to vectors, it does a rotation, a 45-degree rotation. So you're looking at 45 degrees and what that would be in trigonometry. My dissertation actually is about an infinity of 2 by 2 matrices in both directions, horizontally and vertically, all doing 45-degree rotations within a Hilbert space. But infinity in both directions. So that's the basis for it. And I had to be constantly working with these huge infinite assemblies of matrices. Maximal abelian subalgebras means the largest subalgebra you can find that is abelian or commutative, where everything is $a + b = b + a$. So it would be the largest assemblage that would do that. I can't really tell you much more than that. The type II factor is composed of elements that are countable, like 1, 2, 3, 4, 5, 6, etc. It's infinite, but it's countable. So that's my dissertation.

KLINE: So then you said you went to the University of Toronto. Was that immediately following--

TAUER: No. I think it was a couple of years later. What year was I there? '67 to '68. I got my degree from MIT in '63. So that would be four years later.

KLINE: So you went back to Minnesota in the meantime in those three years—

TAUER: I taught at St. Catherine's. Every time I wasn't somewhere else, I taught at St. Catherine's.

KLINE: And how did you like that? What was that experience like?

TAUER: Teaching at St. Catherine's? Oh, I liked it. I liked teaching math there. When I was first teaching there-- Well, actually, I taught there for a couple of years before I went to MIT. And the person, it was a Sister, who was the head of the math department, she was very progressive. And she saw at that time that for students who are majoring in math, women who are majoring in math, who did not want to teach, that computer science was the thing to get into, and it was just beginning.

We had a number of computer science companies here, Control Data, Sperry- Univac, for example. There were several big computer companies that were just starting up that were in the area. So these students – math majors who did not

want to teach – she recommended that they apply at firms that were doing computing. They had no background in programming, but the companies were hiring because nobody had any background in it. So they learned programming. A number of our majors at that time went into computer programming even though they hadn't studied it as undergraduates. It was kind of a nice start for them, and it was a good thing for women to do.

At that time, a lot of women did that. Then, eventually, it seemed to be taken over by men. But at the beginning, it was a lot of women who did that because it was considered computational, and maybe it was. They were using punch cards at first and huge machines that would fill this room. And then we had a few students who went into actuarial science, where they had to take all the exams and do a lot of studying.

Then we did math education for the students in elementary education because they all had to have some math. And we did methods courses for teaching both elementary and secondary school math.

I liked it all right. I taught math for about 17 years. But then I had a sabbatical coming up and I wanted to do something else. I'd talked to a friend of mine. She's actually the person who did all the art that's in this room. She was an art professor at St. Catherine's, and she did printmaking. These are all intaglio prints, or etchings, that she did. They're not paintings. They're all prints. Anyway, she said, "Oh, I think you'd be good in philosophy." I hadn't really thought much about it. I thought, "Well, would that be a reasonable thing to do?"

The person – she was a Sister – who was the head of the St. Catherine's philosophy department at that time, had actually been a chemistry and math major as an undergraduate, and, in fact, I had taught her. And she had then gone on in philosophy. She said, "Well, we really need somebody to teach biomedical ethics because we have so many students in health care, and they need an ethics course related to health care. If you would go on and specialize in biomedical ethics, we could just admit you into the philosophy department. You could just switch departments." Now, that's a very unusual thing to do. But she said, "If you do this, then we would be able to hire you in the philosophy department." So I just proposed that for my sabbatical, which I had coming up – that instead of doing something in math, I would study philosophy. I applied at Georgetown and got accepted.

KLINE: Why Georgetown?

TAUER:

Because at the [Georgetown University] Kennedy Institute of Ethics, they actually had a program in bioethics. There were very, very few philosophy programs that had a specialization, in that and where you could claim to actually get an advanced degree in bioethics. There were probably only two or three schools that had it at the time. But Georgetown had the Kennedy Institute of Ethics, which actually was funded by the Kennedy family to start with, because they had a daughter who had mental retardation. She had a lot of medical issues. Eventually, she was really damaged by medical treatments and then had to be institutionalized. So they sponsored this institute, which still exists, the Kennedy Institute of Ethics, and they have a great bioethics library there at Georgetown. Georgetown still specializes in that. They still have many people who go there for master's degrees and PhD's focusing on bioethics.

So I applied there with that in mind. And because I had some work in math that counted as philosophy, such as logic, I was able to finish the coursework in two years, and then left there and started teaching philosophy and biomedical ethics at St. Kate's. I was at Georgetown from '76 to '78. It took me four more years then to finish my dissertation because I was really teaching full-time and didn't have a lot of time to work on it.

My dissertation in philosophy – it's "The Moral Status of the Prenatal Subject of Research." There was a lot of discussion at that time of research involving fetuses and what kind of research could be done involving fetuses. But I also studied not just fetuses, but also embryos that resulted from in vitro fertilization. So I did the whole area of in vitro fertilization, the embryos that result from that when they're outside the womb – the ethics of doing research involving them, which gets you into the whole field of stem cell research and also their implantation in the womb. It was that whole area of extrauterine embryos, besides research that might be done on fetuses that are already were existing, intrauterine fetuses. So my dissertation covered that whole scope.

And then because of that, I was really privileged to be appointed to the National Institutes of Health panel in 1994 on human embryo research. We debated whether the federal government should fund research involving in vitro fertilization preimplantation genetic diagnosis, eventually stem cell research. Later, I was on another panel at NIH on stem cell research. We did reports for both of those panels, which were really taken seriously by NIH, but the Congress eventually voted against any federal funding for these types of research. So even though NIH had ethical guidelines from our panel and would have been happy to incorporate them, their funding for in vitro fertilization and preimplantation genetic diagnosis research was all turned down by Congress.

And then stem cell research raised the same issue. It's very controversial politically.

I believe that NIH cannot fund any research on stem cells from embryos resulting from in vitro fertilization or anything like that. The people who are doing that kind of research have to get their funding from private sources. And some states have funded it. The State of California does fund stem cell research. Minnesota is very limited in what it can fund. I don't know about Massachusetts; they may have some funding.

Later, I was on the ethics board for a private company in Massachusetts, Advanced Cell Technology, which was based in Worcester at the time. They were doing stem cell research, and I was on their ethics board for some years. I did appreciate being on these boards and working with other people, in terms of developing ethical guidelines.

KLINE: That was something that you sought out? How did you end up—

TAUER: I would say, yes. I was very interested in that. I'm very interested in the whole issue of why we cannot come to an agreement on the status of prenatal life. Why is it that no matter how many millions of things have been written on this, that people cannot come to any agreement on it. I found that they just can't. They just can't.

Now, besides that, I also did a lot of work locally, in the Twin Cities area, with hospital ethics committees, which would be totally different issues, like end of life issues – that kind of thing. Who should be the decision maker in certain cases? What about people who are not able to make their own decisions? I participated in a number of different local ethics committees, and we had in this area a Twin Cities consortium of ethics committees that met regularly. We were able to reach agreement on most of the issues that come up in hospitals. Abortion is not really an issue that comes up in hospitals. Very few people have abortions in hospitals. No, they mostly go to women's clinics or something like that.

KLINE: And how did your religious background ... that's a unique position to be in, to join some of these panels. Do you think that that helped you be a mediator?

TAUER: Yes, especially on the NIH panel in 1994. There is a viewpoint among Catholic scholars who have studied this issue that from the moment of conception until somewhat later on the embryo should not be considered a full human being. That's not the official position of the Catholic Church. The official position is that

this is a full human being from the moment of conception. But there are theologians and scholars who take a different point of view.

So I presented that point of view. The view that I expressed when people would complain to St. Catherine's, or in another venue, I would say, "Well, this is a subject on which there are many, many differences of opinion, and we can't expect public policy to be bound by just one position when there are many different positions being held by different theologians, scholars and ethicists, including many who would consider themselves Catholic. We can't take just one point of view and say that's the one that should govern public policy." That was the way I explained it.

KLINE: You said you came to terms with the fact that there was no consensus. Do you feel satisfied with that now?

TAUER: Well, not really. I wish there could be a consensus. I think that, in terms of the reports that we did at NIH, on some points we had unanimous opinions and allowed more leeway. In fact, we specifically stated – and this is the view of many scholars – that from the moment of fertilization until approximately 14 days later, which is when implantation would be completed; it's also the time when the neural tube closes and the differentiation of organs just begins – that between fertilization and 14 days there should be quite a bit of leeway in terms of allowing research. That this should not be an area that you just simply would not touch at all. After that, there could be more restrictions. And that we did agree on.

The members on our 1994 panel came from a lot of different points of view, I can't remember how many there were on the panel; I'm going to say 18. I'm not sure, but we had people in science, we had people in medicine, we had people in theology, we had people in public policy, in law, so it was a broad range of people.

We did agree on recommending leeway until 14 days after fertilization. There were some other things we didn't agree on in our report. We were very specific about that. And we even said in the report, which is not usually done, when it was a nearly unanimous opinion. In the end, the vote may have been say, 16 to 2. Or we'd say, "On this point we were pretty evenly divided." In the end, the vote was 9 to 7 or something similar. We specifically said what our votes were on each point, which is not usually done. But we wanted to do that because we wanted to show where our difference of opinion was, and how serious it was, and then why. And then anybody on the panel who wanted could write a

dissenting opinion that was part of our report in order to explain why they were against a certain thing.

KLINER: While you were serving on these panels, you were also teaching at St. Catherine's?

TAUER: Oh, yeah. Everybody was doing full-time work. We would go to Washington for two days. Our meetings were always two days. And on the second day, we always had two hours set aside for public testimony, and people who wanted to have – I think they could have eight minutes or something like that – people who wanted to do public testimony could apply. I think by the time we were finished we met maybe 10 times. I think everybody who wanted to present public testimony was able to do that. We also invited mail. We looked at all of it, although the staff at NIH would sort it out first. When you're doing this type of thing, you often get hundreds of postcards that say the same thing. So staff would-- “Here are 2,000 postcards that say the same thing. You don't have to read every one of them.”

But we also got testimony from professional organizations, like the American Academy of Pediatrics, the ACOG (the American College of Obstetricians and Gynecologists). And then later, I was on the ethics committee for the American College of Obstetricians and Gynecologists for 10 years, which was another thing that I consider really important that I did. They always had two people who were in ethics on their Ethics Committee. All the other members would be physicians, OBGYNs, but they always had two people who were either philosophers or theologians who were in ethics, so we would help a lot with the writing of their documents.

I assisted with the writing of their documents on stem cell research and on in vitro fertilization and surrogate motherhood. Many of these things I helped with so that they could present a position that was acceptable to most of their members. They do allow some of their members to form a subgroup that can express a more conservative point of view, perhaps. But the organization as a whole generally takes a more broad point of view.

I worked with them for 10 years. They had a full-time staff person that worked with the ethics committee, and this person's responsibility was to keep in touch with us and keep us informed. Besides writing reports, recommendations, committee reports, we would also get letters from individuals who would raise an ethical issue or who would be making a complaint about another OBGYN which we could give an opinion on. We couldn't actually look into that to see if

the complaint was true or not. We could give an opinion from an ethics point of view as to whether the action described was appropriate.

One issue that was fairly common was a physician treating his own wife. We received a few letters asking: "Is this ethical for a physician to do this?" Well, generally not. But I can see why you might do a procedure on your wife, because you perhaps didn't want anybody else to know about it. Anyway, we would get that type of letter sometimes. That was a very interesting experience, too.

KLINE: Getting back to MIT, while you were there you were in the full habit, and that affected your experience as a woman because you didn't feel like you were seen, really, as a woman. But throughout your career, were there times when you felt like your femininity was more a part of your identity, or it affected more how people saw you--

TAUER: While I was still a Sister? I would say no. As I said, people considered us somewhat non-gendered. If not that, they did certainly consider us asexual. I don't know how to put it. I'm not saying that there were no Sisters who ever had sex. I would say at that time when people entered the convent quite young, there probably were no Sisters who had ever had sex or anything even close to it, so we were probably thought of as asexual.

You're reading a lot now about people being sexually harassed. There may have, at times, been a Sister who was harassed, possibly by a priest. You hear about that. I never knew of it. I never knew of any Sisters who were harassed in any way or propositioned or spoken to inappropriately. I just never knew about it. I'm not saying there weren't any, but it was not very common. And we were pretty cloistered. We usually went out with somebody else. We didn't go out at night a lot. We didn't go to clubs. We didn't even very often eat in a restaurant.

KLINE: When did you leave the order?

TAUER: I'm thinking about '78, possibly. I don't know if it even would be in my CV here. It probably isn't even in here.

KLINE: So before you got your PhD from Georgetown, or before you went to Georgetown?

TAUER: Yeah, after I went to Georgetown. It would be shortly after '78, because when I was at Georgetown, I was still in the order, although we weren't wearing a habit

at that time. But at that time, I was a lot older. Even when I wasn't wearing the habit, I don't remember experiencing much as being a woman.

KLINE: And do most people leave the order, or what was that—

TAUER: At that time, a lot of people did. Yes. Not earlier, but in the 60s and 70s a lot of people did. But at the beginning, when I was first in the order, no, you hardly ever knew of anybody who left. But at the time I left it was reasonably common. I still kept my position at St. Catherine's. In fact, for three years of the time after I left I was a faculty resident in a residence hall at St. Catherine's I was the faculty resident. We had two apartment buildings for juniors and seniors. I was the faculty resident in those two apartment buildings for three years. That was after I had left the order. But it was still very closely connected with St. Kate's. And I just continued teaching there after I left the order. I didn't change my job or anything like that.

After I had done that for three years, I had been able to save quite a bit of money because my housing was part of the job. Then I bought this house where we're having the interview. I've been in this house for 33 years. I bought it from a woman who had been in the convent with me and who had left a little earlier than I did and then bought this house. She was about my age. And then at the time I bought it from her, she was getting married. So I bought the house from her, from a former Sister.

KLINE: So what was usually the motivation for leaving the order?

TAUER: Well, for some people it was to get married. Some people met somebody whom they actually wanted to marry. And, actually, a lot of priests left for that reason at the time. A lot of priests left to get married. For some Sisters and for myself it was really not that. I really didn't have a particular interest in getting married, although I did date a lot when I first left. I didn't really see much point in staying in the order, because at that time we weren't wearing a habit anymore, we weren't living in convents. A group of Sisters that I was with, we rented a half of a house, a duplex-type housing, in what was primarily an African American area of St. Paul. It was right after the riots in the 1960s. A lot of that area had been burnt down and there had been a lot of damage done.

A group of us, four of us, we rented housing there. We moved every two or three years. But we were living in rental housing. We weren't wearing the habit. We prayed together, but it wasn't the same as when we had lived in a convent. And anyway, I just didn't see that there was much purpose in staying in the order. But I've still kept in touch with a lot of people from the order. I still get

together with them. We're very friendly. The people who were in my group in the convent, we meet quite often for reunions. When there's a funeral, we all go to it. We all sit together whether we're still in the order or not. We all sit together, and we're honorary pallbearers. We're still respected as having a connection with the order.

KLINE: Is there anything else you want to add?

TAUER: You may find some things in that interview [published on October 10, 1990], when I was named Minnesota Professor of the Year by CASE, the Council for Advancement and Support of Education, that you'd want to ask me about. Or if there's anything on here [points to CV]-- When you look at the publications I've written, if there's anything there that interests you-- I did things on a variety of topics. I did quite a few things on AIDS and HIV infection when it was a new thing. I've done things on end of life issues, assisted suicide and that type of thing.

KLINE: What were the three or four most important things you feel you were a part of?

TAUER: I think it was really important that I was very actively involved in local ethics hospital committees, because at the time that I first did my work in bioethics, it was a new field and hospitals were just getting started with ethics committees. They really appreciated having somebody who had training and education in this to be a member of their ethics committee. I would regularly go to monthly meetings of ethics committees in hospitals. And then when they would have a particular case that was difficult, they would call a case consult. If I could, I would participate in that: we would meet with the family and the doctors and everybody involved. So I think that was really a major contribution that I was able to make, in terms of getting the hospitals on a good path with their ethics committees and what their policies and procedures would be.

And then I was also instrumental-- You'll see that before I went to the University of Minnesota Center for Bioethics, for a couple of years I was a senior scholar at the Minnesota Center for Health Care Ethics, a center that works with a number of health care organizations specifically. It's not connected with the University of Minnesota. It's a different center. I helped to get that center started and worked with them for a few years to get them on a good path. They still exist, and they're very active with some of the big hospital systems in the Twin Cities. I think that was an important contribution.

I liked the things I did with NIH and with the Advanced Cell Technology company. But I'd have to say, although I was able to bring a theological

perspective that was maybe broader than what a fundamentalist perspective would be, although I was able to bring that and get people to understand that, in the end, I don't think it had a lot of effect because I think people are just so set in what they believe. And the Congress, particularly, is very much wanting to pay attention to their conservative constituents and not approve anything that they think would arouse a lot of disapproval. So we weren't really able to accomplish some of the things we wanted to accomplish. But it was an important experience for me. I really enjoyed doing it. But in terms of whether it really had much of an effect, I'm not sure.

In general, at St. Catherine's I took a lot of leadership on the faculty. I think what we were able to do in terms of women's education was important. Their graduate programs, and their weekend and evening programs both admit males and females. But the undergraduate degree is still a women's degree. And they have decided to keep the undergraduate college a women's college. I think my contribution to that was important, because I think I could see a lot of value with having a women's college and having women exert all the leadership there. We just were able to do a lot of things that you could do as a women's college that I think were valuable, so I think that was an important contribution, too. Now, you have to understand, the 1990 interview was in a local newspaper, so the tone of it may be a little bit folksy. ["St. Catherine's Tauer named state Professor of the Year," *Highland Villager*, October 10, 1990]

KLINE: It's so cool, though. This is interesting. You were talking in the interview about how a lot of people think an ethics committee in the hospital makes a decision and votes on it. You say that really, in practice, several members sit down with the physician, the nurses, the family, the patient (if he or she is able), perhaps a chaplain or the social worker to try to clarify what's going on. At the end, the ethics committee members will give a recommendation, but it's not a vote. It just sounds like you've said a lot of times that you give your analysis, but that people don't—

TAUER: Well, as I'll say in terms of ethics committees in hospitals, a lot of attention was usually paid to our recommendations because they didn't involve something super controversial. But often when we would come to a recommendation, we would present two options. What we think would be the best thing to do would be this, but it would also be ethically acceptable to do Plan B. So we're really telling people, including the doctors, that there's not just one ethically acceptable option. And in the end, if the person-- I would have to say, most of our cases did not involve patients who were competent to make their own decisions. Because if they did, usually that would just hold sway unless they had some really bizarre view. But usually it was a patient who was not able to make

their own decisions, and you'd have family members who disagreed and that kind of thing.

So usually, I would say, they did pay quite a bit of attention to our recommendation. Once we actually had to have a court hearing. We had to call in a judge to do a court hearing because it was a fairly young woman who was dying. She was probably in her early 30s, and she had a husband and she had parents. And her parents were pretty young, so they were pretty active. Her husband and her parents disagreed, like in the [Terri] Schiavo case in Florida. This is a hard case where you have the husband and the parents disagreeing because she didn't have anything in writing. And the husband is not automatically the decisionmaker in Minnesota if it's not in writing.

So we had to have a judge come in on that case, because our recommendation did not bring these people together. It was kind of unusual, though, because usually they will come to some agreement. They can see that we can't just let this go on forever. We had a hearing late in the day, around 5:00 in the evening. The judge came to the hospital, called witnesses, and the judge knew what our recommendation was. Our recommendation was to go with the husband because he credibly knew what she had said. We were accepting his word that he knew what she had said. And we also accepted some testimony from nurses who claimed to have evidence of what she would want. But the judge said even though the ethics committee recommends this, the woman had a newborn child. And the judge said, I don't want to estrange these grandparents from the father.

So the judge tried to get a mediation and actually asked the husband and the parents to meet and to agree on something. And they finally did, because the judge told them they had to. But that was something we could not impose on them. I thought that was interesting, too, that the judge did not want to just come to a decision, either. And I can understand thinking of the future of this family and the baby. The woman actually died in about two days. I think she was going to die no matter what. But the parents wanted aggressive treatment, which I don't think anybody thought was going to do anything.

KLINER: I'm not sure what more we--

TAUER: It's interesting that when we were talking, most of the things that seemed to be of significance or interest are really after I went into philosophy. Not much came up about when I was in math. I'm going to say this now, let me just go back on that a little bit. There were two things I did when I was in math that I think are significant, besides teaching at St. Kate's. Well, I did talk about the young

women we had that we recommended to go into computer science, which was a new thing at that time. Also, I was involved with a program, Training Teacher Trainers, that I contacted when I was in math. It was a federally funded program to improve education in inner-city schools. They had three kinds of people in that program. They had inner city teachers of math – or anything I guess, I don't think it was just math. I think it was anything. Inner-city teachers, inner-city paraprofessionals or parents who were involved with the schools but weren't academically qualified teachers, and college professors who taught future teachers. This was a year-long program at the University of Minnesota. I wasn't teaching at St. Kate's at all during this time because of my involvement. It was a full-year program.

And we had some classes at the University of Minnesota on different ethnic groups. One thing that was interesting, Black English, knowing how to handle kids who talked Black English. It was a big thing at that time. Because we have a lot of Native Americans in Minnesota, we learned a lot about Native American customs. And then, besides having classes, for one semester we went into an inner-city school. And for maybe six weeks or so, we actually participated in classrooms in the inner-city school. So that was very interesting. The purpose was to improve our work with future teachers. I think that was significant. And I was in math at that time.

And the other thing that was interesting, actually, was at the University of Toronto, because their university system is quite different from ours. I worked with a professor whose name was Israel Halperin. That was very interesting, because he was a former U.S. citizen who had been identified during the McCarthy hearings as possibly having Communist connections. That would be in the early 1950s, maybe. He had left the United States and went to Canada, and now he would not even cross the border. He was so anti-American because of what had happened to him that he would not even visit the United States. He was a very nice, very mellow person. I don't want to make him sound rabid or anything. He was a very nice, lovely person. But he felt he had been treated very unfairly in the McCarthy hearings. So that was pretty interesting.

And I had most of my time there to do research and presented seminars and things like that. But then I also taught one class. I did not teach any math majors, because their system is that students who are planning to go on eventually to graduate work have a 13th year of high school. And their 13th year is called something like 'honors year.' They do math that would probably be college math ordinarily. So the students I taught were students who only completed 12 years of high school. They were probably students who were going to be high school and elementary school teachers, so they didn't get this

special treatment. The first year that they were in college was their 13th year. And it was, I would have to say, maybe a bit watered down. One semester was calculus, and one semester was some other kind of math. I can't even remember what it was. But I was not given much guidance as to what to teach them, either. I was just told this one semester would be calculus, and one semester would be whatever. Maybe it was probability, I'm not sure. But I was not even told what textbooks to use, which kind of surprised me, so I had to pick the textbooks. And it was a huge class, which I had never had at St. Kate's. It was, like, 120 students, and I had four graduate assistants. So I only met with them once a week, and then they met with their graduate tutor twice a week, or three times a week, or something like that. And then when they took their final exam, I had to turn in the final exam, but I was not present when they took it. They organized the exams so that all the students were with professors other than their own professors to take the final exam. I don't know, maybe you're accustomed to this kind of a system.

So when I proctored we had a huge room with maybe 500 students taking exams from six different classes, none of them mathematics. What I had to turn in for my students was a grade that was called their term grade, which would be their grade over the whole year. It was going to be 50% of their grade and then their exam grade, which was 50%. That's a lot of emphasis on one exam for the whole year for first-year college students. I think on the final exam, I think they had to get 70% or something like that to pass. I'm not sure. We were just told the percentage. If they didn't pass the final exam, they got an opportunity to retake a final exam during the summer. I had to provide the university with another final exam, and I had to grade it. But I was already back in the Twin Cities at that time and they wouldn't mail the exams to me, so I don't remember how that exam got graded. Somebody else probably had to grade that exam because they wouldn't mail them to me. But the fact that they got another opportunity to take the final exam and see if they could get 70%, I thought that was interesting. I don't know if it's the Canadian system, or if it's just the University of Toronto, or what it was.

KLINE: That's interesting.

TAUER: Interesting, huh? It was a different system. And we had no choice as to how much weight to put on the final exam.

KLINE: That's a lot, 50% is a lot.

TAUER: That's my recollection. I could be wrong, but I recall that it was a lot. I recall that it was a lot.

KLINE: And so you were teaching mathematics for 17 years you said?

TAUER: I think about 17. Yes.

KLINE: At least compared to when you started and when you were studying math, how do you think that that's changed?

TAUER: Over those years?

KLINE: Yeah. I don't know if you know right now, but—

TAUER: I don't really know. I really don't know. What our majors did at that time is they took three semesters of calculus-- Oh, hardly anybody took calculus in high school, that would be different. So all our students had to do a pretest to see if they were ready for calculus, which would be if they did precalculus in high school. And a lot of them did do precalculus in high school, which I guess was like one year beyond advanced algebra or something like that. When I was in high school-- Senior year, half the year was trigonometry and half the year was solid geometry when I was in high school. But I think by the time I was teaching college, I think that the students who were pretty good in math, I think they had a course more like precalculus. But I don't remember anybody ever having had calculus in high school.

Then coming into college, if they were going to be majors or possibly majors, they took three semesters of calculus. And then their second semester of sophomore year was linear algebra. And then junior year they did advanced calculus, which would be real analysis now, maybe – it might be called real analysis. But it was advanced calculus, which involved doing a lot of proofs. Before that, they hadn't really done that many proofs. But third year real analysis or advanced calculus, lots of proofs. So that was when they were really doing proofs and doing a lot with infinite series. And then senior year they did abstract algebra, maybe differential equations, perhaps probability and statistics.

KLINE: Differential equations is one of the classes almost everyone has to take now at MIT.

It's interesting to me because people who take calculus in high school also take AP calculus BC, which is essentially like two semesters of college calculus as college freshmen.

TAUER: For quite a long time, maybe 12 years, I graded advanced placement exams in calculus for the Educational Testing Service. I did that as a grader of the "essay" section. And then I became a room leader, which meant we would come six days early, and we'd go through all the problems that had to be graded by hand, and we'd set up scoring systems. At that time, they got 15 points per problem. I don't think they give 15 anymore. I think it's a lesser number, but we did it 15 points per problem. And so for the six days we were there, the room leaders, we would have to work out a scoring system for the 15 points so that everybody who graded that problem would come out within one point of each other. You could be only one point off. Just a numerical error only was a one-point deduction. You still got 14 points if it was just a plain numerical error. You didn't have to be too good in arithmetic. And then when we actually did the grading in our rooms, we room leaders had to regrade other people's grading. And if somebody was not grading properly according to the scale, then we'd have to talk to them about it.

I did that for about six years, too, so I did that for a long time. We did both the AP and the BC calculus exams. Some of the problems were the same. I think there were seven 15-point problems that we had to grade. And you really looked at all their work. If you have these people who don't show their work, they weren't going to get very much credit actually because you don't know what's going on in their heads if they're not showing their work. They had to show quite a bit of it. We wanted to see what they were doing. Well, because you might come out with the wrong answer and still get 13 or 14 points.

KLINE: Yeah.

TAUER: So I did that. I don't think I even put that on here [her CV] because it didn't seem that important.

Another thing I did that was very interesting that has no connection with these fields, maybe with a philosophy a little, the first 10 years after I retired from St. Kate's while I was doing other things and I was at the University of Minnesota, I was also a volunteer guardian ad litem (GAL) for Ramsey County, representing abused and neglected children. It's the law that every abused, neglected child that comes into child protection has to have a guardian ad litem. And what we did was we had to get to know the child, get to know the parent or parents, get to know the foster family if they were in foster care. Probably half of the children, maybe two-thirds, would be in foster care. Some would still be with a parent, a birth parent.

We had to get to know all these people, and then we had to write reports for the court and go to court hearings and testify. I did that for 10 years. That was very interesting. It's very interesting, because you just meet people you'd never meet otherwise. And I thought it was something that was a good thing for me to do, because I was able to write coherent reports. I didn't feel shy about going to court and having the judge ask me questions, and having to answer them. The social worker in the case ordinarily has a goal of reuniting the family, so they're working a lot with the parent or parents so that the child can come back with the family. And we GALs were not supposed to take that as our goal. Our goal was supposed to be the best interests of the child, so if we thought the best interests of the child supported not going back with the birth parent, then we had to recommend that. And the judge makes the final decision, but he or she has to go by what we and other reporters say because the judges don't know these people at all. They have to go by what we say.

So that was an interesting thing I did from 2000 to 2010. And then it just got to be a little too much. For one thing, it involved a lot of driving. And sometimes these kids would be placed-- I had one young man, he was removed from his birth mother, and he was about 14. And he was considered to be a risk to be a sexual predator himself because he had experienced sexual predation and had done things that were iffy, actually. So he was sent by a judge to a treatment center, which was in Onamia, Minnesota. Well, that's a long way from here. And I am not a real good driver. I don't like doing a lot of driving. So there was just too much driving involved. And also, to see foster parents-- I had one set of foster parents, they were out somewhere in rural Minnesota, and they were actually going to adopt eventually. Dassel, Minnesota, that's where they were. They were on a farm. And that was a long ways, too. It was a lot of driving. All these places are not necessarily in Ramsey County. Even though you're charged with Ramsey County cases, sometimes the kids are placed in other counties. I had one girl, she was placed with an aunt in Milwaukee. Well, I never had to go there, and I did all that just by communication.

KLINE: That's so interesting. You've done so many really interesting things.

TAUER: Those are a couple of other interesting things.

KLINE: Thank you so much for sharing.

TAUER: Sure – you're welcome, Maddy.