



Margaret Lauritsen Leighton at Caltech, 1981

**MARGARET LAURITSEN
LEIGHTON**
(1921 – 2013)

**INTERVIEWED BY
SHELLEY ERWIN**

May 11 & 25, June 23, 1995

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CALIFORNIA INSTITUTE OF TECHNOLOGY
Pasadena, California**



Subject area

Physics

Abstract

An interview in three sessions, in May and June 1995, with Margaret Lauritsen Leighton, wife of Thomas Lauritsen (d. 1973) and later of Robert B. Leighton (d. 1997), both professors of physics in the Division of Physics, Mathematics, and Astronomy.

She begins by discussing Thomas Lauritsen's friendship with the family of Niels and Margrethe Bohr while he was a postdoc in Copenhagen, 1939-40; his marriage to Else Chievitz; and their flight back to the United States when war broke out. She recalls her WAC service in World War II; her marriage to Tommy two years after Else's death; the family background in Denmark of her father-in-law, Charles C. Lauritsen; his marriage to Sigrid Henriksen; their eventual immigration to the United States; and his arrival at Caltech in 1926.

Other topics include Lauritsen family lore; Tommy's early education and working relationship with his father; his mother Sigrid's medical career and strong personality; sabbatical visits to Denmark with Tommy in 1952-53 and 1963-64; their friendship with Aage and Marietta Bohr; Friday night post-seminar parties at the C. C. Lauritsen home for his group at the W. K. Kellogg Radiation Laboratory; the advent of Caltech president Lee A. and Doris Dubridge; Margaret's incompatibility with the Caltech Women's Club; her work for the Democratic Party and SANE (the National Committee for a Sane Nuclear Policy); Tommy Lauritsen's illness and death; and their friendship with Fay Ajzenberg-Selove.

Administrative information

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CALIFORNIA INSTITUTE OF TECHNOLOGY ARCHIVES

ORAL HISTORY PROJECT

INTERVIEW WITH MARGARET LAURITSEN LEIGHTON

BY SHELLEY ERWIN

PASADENA, CALIFORNIA

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Interview with Margaret Lauritsen Leighton
Pasadena, California

by Shelley Erwin

Session 1	May 11, 1995
Session 2	May 25, 1995
Session 3	June 23, 1995

Begin Tape 1, Side 1

ERWIN: Mrs. Leighton, could you tell me how you first met the Lauritsens?

LEIGHTON: I heard about the Lauritsens back in 1939. After I graduated from high school, I came and lived in Pasadena—Chapman Woods—with Sinclair Smith's widow and little girl. He died of cancer in early '39. He had been instrumental in designing and working on the Palomar mirror while at Caltech.

ERWIN: Did you come to Pasadena to work in a technical capacity?

LEIGHTON: No. I had just graduated from high school and didn't know what I wanted to do, so I enrolled in some classes at PCC [Pasadena City College]—it was PJC [Pasadena Junior College] at that time. Sinclair Smith, as I said, was instrumental in designing and building the 200-inch mirror. His wife, Elizabeth, was working as a social worker in Los Angeles at the Union Station. The Smiths had been very good friends with Tommy and [his father,] Charlie [Charles Christian] Lauritsen. In fact, Tommy and Sinclair built a boat together called the *Bathtub*. So all through graduate school, Tommy was a good friend of Sinclair Smith.

When I went to live with the Smiths, Tommy was in Denmark. He got his doctorate in June of '39, got a Rockefeller Fellowship, and went to Copenhagen. Of course, this was just before Germany invaded Denmark. Tommy was very close to the Niels Bohr family. He would write to his parents here in the U.S. in a sort of code, requesting materials and parts that he and

his colleagues needed in the laboratory there. Since the U.S. was not involved in the war, he was sort of walking on eggs, trying to do what he could for the Niels Bohr Institute in Copenhagen but also realizing that the Germans were looking for Niels Bohr.

So that was where Tommy was in 1939, while I was here in Pasadena, going to school. While in Copenhagen, Tommy met and married Else Chievitz, a young Danish girl. In 1940, after the Germans invaded Denmark, Tommy and Else managed to get to Lisbon, where they were lucky in getting on the last ship bound for the U.S. I met them through the Smiths, after they returned to Pasadena. Else and I became good friends, went ice-skating together. Shortly after their son was born in 1942, I joined the military. While I was stationed in India and China, I heard that Else had died. She had had TB for many years, and when Eric was about two years old she died.

When I came back after the end of the war in 1945, I took advantage of my veterans' benefits by enrolling at UCLA. Again, I went out and visited my friend, Elizabeth Smith. While I was there, she invited Tommy over. He was a very sad guy, having lost his wife. He was working in [W. K.] Kellogg [Radiation Laboratory] with his father [C. C. Lauritsen] and Willy [William A.] Fowler, and he and Eric were living with his father and mother.

One way or another, time went by, and we became more and more aware of each other and fell in love. It's a little spooky becoming an instant mother of a three-year-old. So this is how I met them.

Tommy's mother-in-law in Denmark had been a pediatrician. When she got married, her husband made her quit working. Before that she and a colleague had been instrumental in developing the serum for whooping cough.

ERWIN: And her name was?

LEIGHTON: Ingeborg Chievitz. Her husband Ole was one of the top surgeons of Denmark. But he didn't believe in wives working. He wanted her to stay home and take care of the children. It's odd, because my father's grandmother in Oslo was also a medical doctor. In Scandinavia, a high percentage of women were physicians.

Else's mother, Ingeborg, came over to the U.S. for a visit just after Tommy and I were married. She was so sweet to me, and so glad that her grandson had a mother. Since I was so

ignorant about raising children, she gave me much good advice.

I continued going to college under the GI Bill. I received tuition and \$40 a month, and that's what it cost for day care at the child care center. So I had Eric go there, and I continued with my education.

ERWIN: Did you get your bachelor's degree at that time?

LEIGHTON: Not at UCLA. I became pregnant, so I switched and started taking night classes at PCC. I went to UCLA up until one month before my daughter Margaret Ann was born. Afterwards I switched to the night courses close by. Over the years, I got my bachelor's and then worked on my master's.

ERWIN: Let's backtrack in time. I wonder if you could tell me any family history you know about the Lauritsen family. For example, about Charles Christian Lauritsen's parents and what they did. And then maybe also his wife's family.

LEIGHTON: Charlie was born in Holstebro—that's in northern Jutland. His father owned and ran a lumber mill, and that was where he grew up. He went to the Holstebro technical school, and then he moved to the island of Odense. Everyone's heard of Hans Christian Andersen, who was born there. Well, there was a technical school there that Charlie attended, where he studied architecture and art. He graduated from there in 1911. Then he went to the Royal Danish Academy of Fine Arts, in Copenhagen. Afterwards he worked as an architect.

ERWIN: Would that have been an ordinary course of events—that someone with his background would have had this kind of schooling?

LEIGHTON: Not particularly. Holstebro and Ulfborg, where his wife, Sigrid Henriksen, was born, were out in the boondocks. At that time, it was a very quiet life. Charlie had a brother and a half-sister. His brother was a painter but never really made much money as an artist. He ended up by running a little tobacco shop in Copenhagen. We never did know what Magda, Charlie's sister, did; she died at a relatively young age.

ERWIN: Do you know the brother's name?

LEIGHTON: Lars Lauritsen.

ERWIN: So Charlie was the one who acquired the most advanced education among his siblings?

LEIGHTON: Yes.

ERWIN: We have records here at the Archives that say that his immigration took place in 1917. What about between 1911 and 1917? Where was Charlie during that period?

LEIGHTON: Sigrid claimed they immigrated in 1916, which is what her immigration pass states. Charlie came a little earlier and went to the Florida Everglades. You see, the First World War was going on, and things were confused. I got a letter from Sigrid's nephew recently, relating his father's memories of growing up with Sigrid. He told me that Sigrid had taken Tommy to Ulfborg, where her family lived, shortly after Tommy was born. He was christened there in 1916. Charlie had taken a ship to the U.S. around that time. He was lucky—he happened to get the last boat out. This was before the U.S. got into the war. And he now felt at peace and didn't have to do army service. Tommy was born on November 15, 1915, and Charlie left for the U.S. in 1916.

ERWIN: When did Charlie and Sigrid get married? And do you know the circumstances of how they met?

LEIGHTON: Her baby brother, at the age of ninety, told me through his son—because he didn't speak any English—that Sigrid had been the bright one of the family of six children.

ERWIN: And her name was Henriksen?

LEIGHTON: Yes, Sigrid Henriksen. Her whole family lived in Ulfborg, where her father had a huge farm. And she had an uncle who was the town banker, who would never give the local farmers their money unless they gave him a good reason for withdrawing it. From what I know

of Sigrid and the little she told me about her uncle, I would say that Sigrid had this uncle's genes.

When Sigrid was about eight, the governess took her father away from her mother. So her mother and all the kids were kicked out. I think she took them all to live with Sigrid's uncle. Sigrid never would tell me exactly. For the rest of her life, she was bitter about women stealing husbands. But she was a very intelligent and smart woman. And when she was very young and in school, she was the one who would do the mathematics for all the other kids and teach them all. We could never get her to talk too much about the period after they'd left her father. She never blamed her father; she blamed it on the governess.

ERWIN: This happened when, approximately?

LEIGHTON: When she was around six to eight years old. Later, after high school, Sigrid moved to Copenhagen. She had borrowed money from her banker uncle to go to pre-med school at the university there. Many years later, one of her brothers told me that while in Copenhagen Sigrid also became a spy for the British and the Danish governments at the beginning of the First World War. Of course, this is all hearsay, according to her relatives.

Anyway, she was living in Copenhagen while at the university. At the time, Charlie was taking classes at the art school in Copenhagen. And they most likely met there.

ERWIN: So the circumstances of their meeting are not well known.

LEIGHTON: No.

ERWIN: Now, she was gathering information for the English and the Danish? In other words, she was gathering information against the Germans.

LEIGHTON: Yes. If we had only known this about her before she died, we might have been able to worm it out of her. But we didn't.

ERWIN: So you learned this after she'd passed away?

LEIGHTON: Yes. I guess it was an impressive amount of money she earned through spying,

though at the time she didn't tell her family anything of what she was actually doing. But she earned enough money to pay back her uncle. Again, not knowing the details, we've heard that Sigrid and Charlie were married in 1915 and that Tommy was born toward the end of that year. This was when the war was going on. And they never talked about it to me. In 1917, when Tommy was two years old, Sigrid brought him to Florida.

ERWIN: Did you ever hear that Charlie was philosophically a pacifist? Or he just was opposed to that war?

LEIGHTON: I'm not sure, but I don't believe he was a pacifist. Because look at all he did during World War II. From the very beginning of World War II, he was an advisor to the government regarding the war effort. During World War I, I believe that Charlie was typical of many young men—hoping not to fight. Around 1913-1914, Charlie joined his brother, Lars, in Switzerland. I believe that Lars had TB and that he'd gone to Switzerland to paint. Charlie went down for a while and sort of roamed around, then he went back to Denmark and resumed his art work. I guess he just didn't want to go into the war. Soon afterwards, he had a wife and son. So he decided to come to the U.S., and they ended up on Lake Okeechobee.

ERWIN: Why did they go there?

LEIGHTON: Well, this was a good plan—it was far enough away, where no one could reach them. [Laughter] I don't know. Charlie had made the journey to America with another Dane. He and his friend built a houseboat there on Lake Okeechobee. Then Sigrid and Tommy came at the end of 1917 and they joined Charlie on Lake Okeechobee and lived on this houseboat for a year. We have a snapshot of the houseboat. It was quite amazing.

ERWIN: Do you know how they survived?

LEIGHTON: Well, he fished. And he probably tinkered. And then eventually they sold the boat to someone who used it as a little hotel.

ERWIN: It sounds quite romantic.

LEIGHTON: It does! Not much ever came out about their early life in the U.S. Charlie was, indeed, quite talented. It was fascinating watching him design and construct very small instruments or gadgets. He also designed very large objects. But he was a very private person, and he did not talk much about their family history. Of course, we didn't really ask them either. Here was Sigrid—a very strong-willed young woman. She had quit her education to have a baby and leave Denmark and her family, and here she had ended up on Lake Okeechobee.

Then Charlie heard about a job—I forget whether it was Buffalo or Boston at first. His passport listed his occupation as an engineer, although he'd really been trained as an architect. One could say that Charlie was a jack of all trades. He designed and constructed gadgets.

ERWIN: Did he have a degree that would have allowed him to set up professionally as an architect?

LEIGHTON: I don't know what kind of degree he had, only that he had graduated from the Odense Tekniske Skole in 1911.

Let's see now—we're getting up to 1919. At the end of the war, I guess, is when they emerged from Lake Okeechobee. Charlie did live and work in Buffalo for a while—doing what, I don't know. At one point, he also worked in Boston. He was designing these hydrofoil boats when they first came out—that was around 1919, 1920. And then he went to Palo Alto. I'm not sure that Tommy knew what kind of work his father was doing in Palo Alto. Tommy was six or seven. After Palo Alto, in 1923, they went to St. Louis, where Charlie became chief engineer for the Kennedy Corporation, which built radios. Charlie designed a type of circuit that got rid of static. He sold the patent to the company.

ERWIN: I think those were the days when affordable radios were becoming available for popular consumption.

LEIGHTON: Yes. So that must have been around 1925.

ERWIN: Did Tommy remember these early years, and did he remember moving around?

LEIGHTON: Yes, he remembered moving around.

ERWIN: Did he ever let on that he had a great time?

LEIGHTON: Yes, I think he had a great time. I think his mother worked for a sugar beet factory doing some chemistry or something like that in Palo Alto.

ERWIN: Did he start school in Palo Alto?

LEIGHTON: Yes, that was where he started school, because the one thing that he did tell me about Palo Alto was that he went home with a friend after school one day and then told the friend's mother that it was OK with his mother that he spend the night with them. And no one knew. So Sigrid and Charlie were combing the city for their son, not knowing where he was. And that's the only thing Tommy told me about his Palo Alto years. [Laughter]

Then Tommy remembered a little bit about being in St. Louis. When Charlie heard Robert Millikan [head of Caltech, 1921-1945] speak at a lecture one evening, he came home and stated, "That's where I want to go, where that man is." Millikan was visiting from Caltech. So, in 1926, Charlie and Sigrid packed up again. And in the car, Charlie had to use a screwdriver to shift gears, all the way from St. Louis to Pasadena. Tommy was pretty impressed by that.

ERWIN: So they drove?

LEIGHTON: They drove. He used the money he got from the patent rights to come to Caltech, and Millikan let him enter graduate school in the physics department.

ERWIN: So from what you understand, he could have stayed on at Kennedy in St. Louis and had a very good job, but he elected to come to Caltech.

LEIGHTON: Yes, he was just entranced with Millikan. It was 1926 when they came out to Pasadena. Being the kind of people they were—with Charlie being an artist and designing things all the time, he seemed to follow where that skill was needed and he was appreciated. They both also loved music.

ERWIN: Did they play any instruments at home?

LEIGHTON: Charlie played the piano, and Tommy played the piano and violin. Mostly classical. They also loved Danish and Swedish drinking songs.

ERWIN: Did Sigrid play?

LEIGHTON: No. You know, you can get the feeling when someone really loves music, without even talking about it. But I always had the feeling that her attitude was that it was good for one to know good music. I never got the feeling that she would just sit down and listen to the music for just pure enjoyment. However, she truly enjoyed hearing Charlie and Tommy play and sing Danish and Swedish songs. That was the only time I ever heard Charlie speak Danish. After Charlie died [April 1968], she never played another record, didn't listen to the radio or watch TV or listen to any music. They had had quite a collection of sheet music and recordings. Tommy had had music lessons, and he and Charlie both had good voices and were quite musical. They did play and sing the Swedish songs at the Kellogg parties also.

Sigrid was a very pragmatic person. I mean, she was practical to the extent that Charlie wore only black suits, black shoes and black socks, and white shirts. And even after Tommy was married, she would take Tommy down every year and buy him a new black suit—or navy blue—black socks, white shirts. I sort of thought, “Gee, I'd like more colors, or something.” But Tommy said, “Well, you know, it's so practical. I can reach into my drawer, pull out any two socks, and I know they'll match. And I don't have to stand in my closet deciding which shirt shall I wear today. Or which suit.” And that was her whole reasoning. They were all so unobtrusive in their actions in public and in their dress. They can dress so conservatively and then they can think their wildest thoughts, she would explain. And I thought, that's so great!

Just after Tommy died [October 1973], I got rid of our Volvo, because I didn't really know how to take care of it, and I got a red Dasher. Sigrid went with me. She said, “I've always wanted a red car. But I didn't get one, because back in those days”—back when she was buying cars, in the fifties and sixties—“I just knew that anyone who had a red car would be a target for the police. There were so few back in those days.” And she was so right. She just didn't want any police spotting her in her flashy red car.

Sigrid was very funny. She was a good driver but a little bit sloppy at times. She'd maybe sideswipe a car a little, and she'd quickly park her car, get out and go and look at the

damage. Then she'd open up her purse—she always carried lots of money in her purse—and she'd say, “Well, I think that would cost you about \$200 to repair that. Why don't we just keep our insurance companies out of it.” And she'd pay the guy; the poor person had no chance to even think about it. He'd accept it, and all went on their merry ways. She drove sort of a dark green—very unobtrusive color—just a good old Chevy. Never did get pulled over by the police.

ERWIN: How did she dress? Did she carry this practicality over into her own personal appearance?

LEIGHTON: You would say that she was always dressed for the occasion. When Charlie was in Korea or Japan, he'd bring her back material. She had a couple of beautiful brocade dresses made for formal events. But otherwise, like when she was going to the hospital every day as a radiologist, she would just have a simple black dress and two or three of the same style. She was not at all flamboyant. It's not so much that I would say she was conservative; I guess it depends upon how you define it. She was conservative financially and in those other areas I've mentioned. But I guess, in the long run, she was just probably the most pragmatic person I've ever been involved with.

ERWIN: When did her medical studies begin?

LEIGHTON: Well, she had postponed taking classes when they were moving around. Finally, when they settled in Pasadena, she started at UCLA and did her undergraduate pre-med work. I'm sure we could find out when she finished there [UCLA verified that Sigrid Lauritsen received a bachelor's degree in chemistry with honors on June 30, 1930—ed.]. But we know that she finished USC medical school in '36. She did her internship at the Los Angeles County Hospital, where she stayed and worked in the radiology department for the next twenty-three years. And '36 was the year that Tommy got his bachelor's from Caltech.

In 1930, Sigrid would have been close to forty. In those days, it was unheard of for a student to start medical school at that age. Sigrid was also the only female in her class. I once said to her, “Well, it must have been pretty hard.” She answered, “Well, I just had to be smarter than the guys, and I was.”

She had first thought of going into math but felt it would be even harder for a woman to

get a job in that field. Then since Charlie was at graduate school here at Caltech, she thought continuing with medicine made more sense for their lives.

ERWIN: Does that have anything to do with the choice of radiology, finally, as her specialization?

LEIGHTON: Could be. Charlie was an experimental physicist doing work in the high-voltage laboratory.

I was amazed at some of the books that the children have pulled out of her library—her plane geometry and all of her math books back in Denmark from 1907 and 1908. So she really was bent on going into mathematics when she was younger.

ERWIN: It sounds like she made another one of her practical decisions.

LEIGHTON: Yes, that would fit in. When she accepted the job at the County Hospital, it was close; she could drive. They always lived close to Caltech. They lived on South Chester when they first came and then on Oakdale. And then on Blanche, which had its name changed to Del Mar in the late 1950s, where they lived for the rest of their lives. So they were always either within walking distance for Charlie or else she would drop him off on her way to work. Charlie never drove the car after they moved to Pasadena. Sigrid did the driving.

ERWIN: Tommy got into Caltech. Where did he go to high school?

LEIGHTON: Well, he went to different schools in Pasadena. He went to Grant School, where Grant Park is now. The school burned down. Then another one of his schools burned to the ground. He kept saying every school he went to burned down, so he had to go to another one. And he went to Marshall for the ninth and tenth grades. In those days, for the eleventh, twelfth, thirteenth, and fourteenth grades, students went to PJC, either to the west campus—which is now Muir High—or the east campus, which is now the Pasadena City College. After Marshall, Tommy had three years on the east campus and was then accepted at Caltech for his sophomore year. Having the last two years of high school and the first two years of college at the same place made it easier for students to continue after high school. Pasadena was the first community

in the country to provide this level of tuition-free education beyond twelfth grade. This was very practical for Tommy, providing him courses that were counted as college courses at Caltech.

ERWIN: So he went through school fairly uneventfully, except for the burning down of the schools. And started at Caltech when he was the usual age?

LEIGHTON: Yes.

ERWIN: One thing I'm interested in hearing about, if you have a feeling for it—what I'm leading up to is what it was like for the father and the son to be working together in the late thirties, what their life was like in the lab.

LEIGHTON: Well, Tommy adored his father. He went into nuclear physics in graduate school, working in Kellogg. Charlie had a great reputation of working hard with the Kellogg graduate students. But Charlie leaned over backward to avoid showing favoritism toward his son. Tommy had expected to be treated as the other students—no better, no worse—but Charlie was actually harder on him. Even though Tommy succeeded very well, he really thought Willy Fowler was more of a son to Charlie. I'm sure that Charlie was not aware that Tommy had these feelings, though Charlie was a sensitive guy. You know, they got along and worked well together, but it was not that easy for a son to follow in his father's footsteps in the same field. In spite of that difficulty, Tommy stayed. There was no other place he ever really wanted to go.

Years later, after we were married, and I wasn't getting along too well with his mother, Tommy suggested that we might go to the University of Minnesota, where he was invited by Johnny [John H.] Williams. He liked the work they were doing at Minnesota, but I knew that he was trying to make life easier for me. He said, "They've invited me there. Wouldn't you like to go?" And I said, "You can't use me as an excuse. Eventually your mother and I will get along. It really depends on what you want to do." Well, of course, he wanted to stay in the lab with his father.

We went off to Denmark in 1952 for a year's sabbatical. While we were there, he was asked by [F. K.] Richtmyer and [E. H.] Kennard to write with them on the fifth edition of their *Introduction to Modern Physics*. He thought about it and suggested to me, "Maybe I should ask Charlie whether I should do it." And I said, "Why don't you make your own decision?" But

their relationship probably worked out better than most fathers and sons working together. They were compatible and had many similarities. I do feel that Tommy was much more sensitive than Charlie.

ERWIN: From what I can discern, which is really just from reading, it seems that their personalities were quite different—that Tommy was always spoken of as a warm and outgoing and fun-loving person and the life of the party, whereas you don't hear that about Charlie. There's little specifically said about his personality in what is written, as if he were kind of a guarded or quieter type.

LEIGHTON: Yes, he was a private person, but he was also a warm person. And reading through some of the letters that people wrote to Sigrid and Tommy after Charlie died, I felt that many were aware of the gentle side of Charlie. You see, with Charlie's capabilities, maybe, he could have taken different paths. And this is just from my observations; I don't know anything about physics. But I was aware of the fact that he preferred to be in the background, giving advice. Of course, he was a leader and did serve on several governmental and professional committees. But I do know that he hated to give talks and lectures. He would lecture to his students. And he would help people along.

ERWIN: When you met him, did he seem like kind of a self-effacing person? Did he hold back?

LEIGHTON: Self-effacing? Yes, probably, as I said, he preferred being in the background. But, nevertheless one knew that he was there and that he was giving advice. However, he was a little more open with me, very sweet and warm, and very happy for his son and grandson. And for us to get married. And he would always keep telling me, "Now, you've just got to love them"—talking about Tommy and his son. He was very close to me. I guess he knew that his wife and I didn't get along too well.

ERWIN: But you say you eventually came to get along. It just took effort on both your parts?

LEIGHTON: Sure. It took time and effort. Maybe it's just that way with all mothers of sons. She had her idea of how we should educate our kids and how I should bring them up, and how I

should do this and that. And no young bride likes to hear this. [Laughter] But on the other hand, she was, as I say, again, also a very private person, an intelligent woman, not at all self-effacing. [Tape ends]

MARGARET LAURITSEN LEIGHTON**SESSION 2****May 25, 1995****Begin Tape 1, Side 2**

[Ed. note: Erwin asked what language the Lauritsens spoke at home. The tape did not record the question.]

LEIGHTON: Way back in Florida, they made the decision that they were going to live in the United States and eventually become citizens and they therefore should not speak Danish. They should learn the language. So when, after Tommy was about six or seven, they would go back to Denmark during the summer and visit family, that was the only chance he had to pick up a little bit of Danish. Because the relatives in Denmark did not speak English; they all only spoke Danish.

ERWIN: They had no difficulty going back to Denmark, though, at all? They had not left in any way that had clouded the picture, either personally or—?

LEIGHTON: That's true, and I don't really know the real motivation for Charlie to have left Denmark. No, he was fine, and he was later given Danish awards and medals. He was elected to the Royal Danish Academy of Sciences and Letters in 1939 and he was made Kommandor of Dannebrog to the King of Denmark in 1953.

So Tommy learned English. His mother, although she learned English very well, kept her Danish accent, but Charlie did not keep his.

To go back, then. After Sigrid finished her medical school, she took a social service examination. She scored in the 92.7th percentile. Then she was first in her class to go for the radiology position at County Hospital. She was a very good student, a very intelligent woman. Sigrid got her MD when Tommy got his bachelor's degree at Caltech, in '36. Then, when he got his doctorate, he obtained the Rockefeller Fellowship to go to Copenhagen for a year. That was in 1939.

So Tommy went to the Niels Bohr Institute. A very interesting thing: In the schools in

Denmark, the children were all taught the king's English—British English. So Tommy would tweak them in the laboratory and kid them about their English. They also would all address each other with “De” for the very formal “you.” No one addressed you with the familiar “du” at the institute, and Tommy would kid them about that. Whenever he had a chance, he would call everyone “du.” But they were all good sports about it. I guess he gave his one lecture in Danish. And from then on, they always had their lectures in English, because his Danish was not all that good—it was pretty bad. And the guys in the lab—whom I met later when we were there in '52-'53—they all taught Tommy the most vulgar forms of Danish. So when he would go to the Bohr family at their mansion in Carlsberg for dinner, he would be saying to Margrethe Bohr, Niels Bohr's wife—who is really quite like a queen—something like, “What the hell time is it?” They had taught him all the vulgar Danish to get back at him for teasing them about their English.

ERWIN: What guys did he meet in those days? Do you know some of the names?

LEIGHTON: Well, Aage Bohr, of course, who's still living [Aage Bohr died September 8, 2009—ed.] He and Tommy were close in age, and he was also a nuclear physicist.

ERWIN: And he was the son of Niels Bohr.

LEIGHTON: Yes. Tommy was especially good friends with him. The other Bohr brothers—one was a chemist, one was like a member of the Supreme Court, one was a doctor. Aage was the only one in physics. So of course he and Tommy were good friends, and they kept up that friendship.

Margrethe Bohr treated Tommy as one of her sons. The Bohrs had lost one of their sons, Christian, in a sailing accident; Tommy had been friends with him as well, so Margrethe always just treated Tommy as one of hers. They had had six sons. [Another son also died in childhood—ed.].

It was through the Bohr family that Tommy met his first wife. Ole Chievitz, who was one of the top surgeons of Denmark, was good friends with the Bohr family; in fact, they owned a sailboat together. It was his daughter whom Tommy met while he was in Copenhagen during that year. He kept writing letters back to his parents saying that they could see that Germany was going to come and invade Denmark. And colleagues wanted, of course, to keep the Bohr

family safe.

ERWIN: So they were already anticipating the value of Bohr's scientific knowledge.

LEIGHTON: The value was already well known; he had received the Nobel Prize in physics in 1922. Plus he was part Jewish. So during the invasion, the whole Bohr family moved to Sweden. Niels Bohr's sister-in-law and her sister had opened a school outside Copenhagen for Jewish children, so those two stayed on, even though they were part Jewish. The rest of the Bohr family went to Sweden. And then Niels got from Sweden to Norway to Britain and eventually to the U.S.

ERWIN: So the parents went and left the children behind?

LEIGHTON: No, the whole Niels Bohr family went, with the exception of those two teachers. By then, the Germans were on the lookout for Niels. At one point, before he went over to Sweden, the Germans actually had him practically within their grasp without their knowing it. But he got away.

ERWIN: Was it a narrow escape?

LEIGHTON: Yes, it was. Everyone was very concerned. The Germans were searching house to house.

Meanwhile, Tommy and Else Chievitz had fallen in love, and Tommy wanted to bring her to the U.S. So they got married.

ERWIN: Do you know when they got married?

LEIGHTON: Well, it must have been sometime at the end of 1940, beginning of '41—just before they left for the U.S. [They left for the U.S. in December 1940—ed.] They barely managed to get out—somehow they made their way to Lisbon, where they caught the last ship to leave Lisbon for the U.S. Because of the German invasion and the U.S. entry into the war, Tommy was not able to finish his full year there. Therefore, he always said that the Rockefellers owed

him a half a year. [Laughter] An interesting thing is that—this is just an aside—there was another family that was on that last boat from Lisbon: Fay Ajzenberg and her parents. She and her parents had been fleeing, too. Her parents had left Russia, and then they went to Germany, then they went to France. And Fay's father made fortunes each time, but had to give up each fortune to get himself down to Lisbon. Fay's sister stayed in Paris; she was about ten or fifteen years older, but the rest of the Ajzenberg family came to the U.S. on that same ship that Tommy and Else were on. Of course, they didn't know each other at the time. Fay was about twelve then. They found it very amusing in later years. Because when she got her doctorate at Wisconsin, she had heard about Tommy and his father. She wrote to Tommy asking if she could come to Pasadena and work for the summer. That was in '52.

ERWIN: And then began their long scientific collaboration.

LEIGHTON: Yes. We were leaving for Denmark for a Fulbright year starting the fall of '52. Fay's parents put us up overnight in their hotel where they were living in New York City, and they took us to the ship. So ever since 1952, Fay and I have been friends. We celebrated our forty years of friendship in 1992.

When we went to Denmark in '52, the Danes were still teaching British English in the schools. They felt that the Americans had such terrible slang. When we went to enroll our children in school, we were going to put our son Eric in the Danish school. We were living out where the Brostrøms lived. He [K. J. (Laps) Brostrøm] was a nuclear physicist in Bohr's lab.

ERWIN: But they come into the picture later. They weren't colleagues in '39.

LEIGHTON: Yes.

ERWIN: They were?

LEIGHTON: Yes. Tommy met Brostrøm and Jørgen Bøggild and two or three others at the lab in 1939. So in 1952 we rented the lower half of a villa out in Hellerup, near where the Brostrøms lived. They had two sons who were in the local school. We had our daughter in a nursery school. And our youngest child, once he could keep dry, was also allowed to go to nursery

school. But when we enrolled Eric in the local school—he would have been in the fifth grade—the principal was apologetic, but she also had a good sense of humor, and she said, “Well, it’s too bad we can’t put him in our sixth grade, because the youngsters are just learning English, but our teachers don’t want the American slang to corrupt their correct English.” [Laughter] And she thought this was very funny. But her teachers were adamant.

In the fifth grade in Denmark at that time, the students were all preparing for exams the whole year. That was when they had to decide whether they were going to go to the gymnasium to prepare for college or else to the technical high school. So the parents were so intent and concerned that their kids would, of course, all go to the gymnasium. Eric felt that he would have liked to have had more help, because he didn’t know any Danish. But youngsters pick it up easily. And of course they pick up all the swear words first. Eric and the Brostrøm kids were good friends, and their parents were very nice to us when we traveled. They’d take care of a couple of our children.

Aage Bohr had just married an American citizen—Marietta [Soffer]. She had been a student at Columbia. Back in 1948, Aage had visited Caltech. Then he went to New York, and we were all looking around, thinking we should find a great wife for Aage. Then all of a sudden we got a letter from him saying that he’d found someone. And she was a fantastic person. Her father had been in a symphony orchestra in Vienna, but they were Jewish. After her father died, Marietta had to get her elderly mother and grandmother out of Austria during the war. Somehow she managed to get them to Paris, then to England, and eventually to the U.S. She managed to do it, and she was only about eighteen. She then entered Columbia University to study art history.

ERWIN: She wasn’t Danish then, was she?

LEIGHTON: No, she was Viennese. Marietta was one of these feisty young women. She was a musician. She played the flute and was talented in the arts and interested in the young artists and their new ideas. She also took life seriously, as Aage’s wife and in raising the children. I became good friends with her, and when they would come to the U.S.—they would be at Caltech for a month or two—they’d bring the children. So our children grew up together.

ERWIN: And it was a happy marriage and a successful one?

LEIGHTON: Oh, yes. I guess coming from Vienna and then living in the U.S., she was very unhappy that she had to give up her U.S. citizenship. If she had been born here, it would have been different, but she had become naturalized. They would come back to the U.S. just within the five-year period to renew her status. But finally she just realized that yes, indeed, she was a Danish citizen. But she had worked very hard to become a U.S. citizen, so that was pretty hard for her. Also, she wasn't able to pursue her artistic talents fully. She was great with her youngsters. She gave up a lot, but that was her choice.

ERWIN: Did she continue to play the flute?

LEIGHTON: She would play with small groups once in a while, but not in a symphony orchestra or a permanent group. She expected herself to do a lot of entertaining for Aage and the institute. And then after Aage got the Nobel Prize [1975], she had to do even more entertaining. And they had to travel quite a bit. Also, Marietta helped a lot with visitors. For instance, we were living there in 1963, just after Niels Bohr had died [November 1962]. At the same time, the Bohrs were hosts to a couple of Chinese physicists that year. Aage had been working very hard on getting the Chinese to come to Denmark. And Marietta's hospitality was renowned.

ERWIN: Which Chinese? A specific person?

LEIGHTON: I don't remember who they were—they were the first visiting Chinese physicists to be allowed to come to Denmark and study. Aage and Marietta had gone to China earlier. In fact it was when they finally got visas to go to China and were visiting the various universities that they received the telegram about Niels Bohr's death, so they had to leave and go back to Copenhagen immediately. But the visit paid off, since the two scientists did indeed get to come over in 1963.

ERWIN: Was this a project that was dear to the hearts of the Bohr family?

LEIGHTON: Yes, well, to again become the international scientific center, as they had been before the war.

ERWIN: To be an international center?

LEIGHTON: Yes. There were also Russians, Yugoslavians, Swiss, and other European physicists there when we were there in '63-'64.

Now, back in '52-'53, during our earlier stay, Denmark was still recovering from the war, and they were trying to build up the laboratory.

ERWIN: Had the institute survived the war?

LEIGHTON: Yes.

ERWIN: It never was closed down completely? Or it wasn't demolished, certainly?

LEIGHTON: No, it wasn't demolished, but they weren't allowed to do anything. And of course during the war the Bohrs had gone; Aage and his father were at Los Alamos and the rest of the family in Sweden. We often heard that during the occupation when the Germans wanted all the Jews to wear armbands, the king of Denmark suggested that everyone, whether they were Jewish or not, wear armbands, so the Germans weren't able to tell who was Jewish. But it took a while to recover afterwards. Many people sent over food, clothing, and cigarettes. And in '52 Tommy was earning the big sum of, like, \$4,000 a year while we were there, and they thought this was top salary compared to what they were getting. So it was an interesting year there.

ERWIN: Do you recall that their institute got the name the Bohr Institute after the war? Because it seems previously to have been called the Institute for Theoretical Physics, or something like that.

LEIGHTON: Before and during the early 1930s, there was an international community surrounding Bohr at the institute. I guess it was after the war that they called it the Bohr Institute. [The name was changed from the Institute for Theoretical Physics to the Niels Bohr Institute in 1965—ed.]

ERWIN: Was it founded by Niels Bohr?

LEIGHTON: I don't know. [Bohr founded the institute in 1921—ed.] He certainly was at the center of the scientific community there.

ERWIN: Now, when Tommy returned to the U.S. in 1940, I'm assuming his father was already enlisted by [Richard Chace] Tolman to go to Washington and be part of the NDRC's [National Defense Research Committee's] wartime work. Do you remember that directly? Were you in Pasadena then?

LEIGHTON: Yes, but then during the war I was in India and China.

ERWIN: Maybe this would be a good time to talk about your wartime experiences. You were a WAC [Women's Army Corps].

LEIGHTON: I became a WAC toward the end of '42. I actually knew Tommy and his first wife when they first came back from Denmark in 1940, and we were friends when Eric was born in '42. At the start of '42, I wasn't sure what to do; I couldn't find anything interesting at the City College. So I went to work grinding crystals for radios for the war effort in South Pasadena. Then a friend of mine and I decided that since neither of us knew what we really wanted to do, we would go and try the militaries. We tried the navy, because I thought that would be great. But they said women were not allowed to go overseas. So then we said, "Forget that." We wanted to be active. The army said yes, we could, so we signed up with them. We didn't get to stay together; we were called at different times. And I was sent finally to Craig airfield as part of the Army Air Forces in Alabama to do personnel work, and then I got sent off to India.

ERWIN: What was that like? Where were you?

LEIGHTON: We didn't know where we were going at first. We were forty-two days on the ship. When we left Newport News, we were told to pack clothes for summer and winter. We arrived in Bombay, and we took the train across the country to Calcutta, where we were stationed in the CBI headquarters. I did personnel work there.

ERWIN: What is CBI?

LEIGHTON: China-Burma-India headquarters. I was there for a year. And then after V-E Day, the captain wanted me to go up with her to open up offices in Chunking. So we flew over the hump and went up there. And then V-J Day came. And then the captain said, “Won’t you go with me and take a group to Shanghai?” And I said no, I wanted to go home and go to school.

ERWIN: So you ended the war in China?

LEIGHTON: Yes. I had earned enough points in the military to get to come home at that point. I had actually taken some courses by correspondence from Berkeley, because I realized how ignorant I was and I better start thinking about getting an education. So I came back and started UCLA under the GI Bill, and lived with a friend. She and I shared her home. And then I met Tommy again. That was in ’46.

Tommy was a widower then and a very unhappy guy. And he had this little boy who was three years old. Tommy had him in a nursery school, because Sigrid was at the County Hospital doing her radiology. She had worked very hard during the war. She did a lot of testing of inductees going into the militaries for chest X rays. But she also took care of this little grandson.

ERWIN: When did his mother die?

LEIGHTON: Else died in 1944. She went to La Vina Sanitarium shortly after Eric was born—she really only had him for about six months before she became ill. She had had one lung collapse from TB when she was quite young, but she was otherwise in very good health while she was pregnant. But after she gave birth to this very large baby, her whole system suffered.

ERWIN: And they didn’t have the medication yet?

LEIGHTON: Well, it’s amazing. Denmark is where they first had TB inoculations. But her father was amazing. Here he was the top surgeon in Denmark, and his staff and patients adored him. But according to Tommy, he didn’t seem to take care of his own family.

ERWIN: So she actually had TB in her childhood?

LEIGHTON: Yes, when she was about thirteen.

ERWIN: And Tommy knew this all along, I'm sure.

LEIGHTON: Yes. Of course, they expected it to stay in remission. But Else died in '44. Then in '46, Else's mother, Ingeborg Chievitz, came over to visit her grandson. Tommy and I got married when she was here. She was so happy that Tommy was going to have a mother for his child. But then while she was here she broke her leg, so she had to stay longer than she had planned. Ingeborg had also been a medical doctor—a pediatrician. She was very helpful to me, while I was learning to cope with a three-year-old. After she got back to Denmark, her husband had an appendicitis attack and didn't do anything about it and died of peritonitis within a short time. So here she'd lost her daughter and then her husband. That was very sad for her. Just as he had ignored his children's health, he also ignored his own health. Ole Chievitz's patients loved him, and his colleagues loved him. And I think Tommy respected him but was not in awe of him. Whenever Tommy would go to their house, he said that servants would bring the dinner around, and of course Ole Chievitz was supposed to be served first. He always had a special piece of the guinea hen or whatever they were having. But Tommy would take that particular piece. Tommy would do things like that—anything just to let Ole know that he wasn't in awe of him. Ole got along very well with his daughter, Else, but he was very hard on his wife and his son. His son became a doctor and married a doctor.

ERWIN: Is the son still living, do you know?

LEIGHTON: Yes, I believe he is. But while we were there in '52-'53, the son and his wife had been in a terrible motorcycle accident and became addicted to morphine afterwards. To support their addiction, they eventually sold much of Ingeborg's possessions. She lived in the apartment downstairs from her son's apartment in the center part of Copenhagen. I would take the kids down to visit—she'd have us for tea and was great with Eric. But she also had these two grandbabies upstairs whom she was worried about. Her son finally went to some island to overcome his addiction, but his wife still was on morphine, practicing medicine and raising these two little boys. So here was another tragedy for Ingeborg, who was a caring, wonderful woman. She wasn't able to continue her studies after her marriage; she had lost her daughter, then her

husband; and then her son and his wife were morphine addicts. And she was so concerned about their two little boys. Margrethe Bohr would say to me, “Do you ever see Ingeborg?” And I’d say, “Well, yes.” And she’d say, “We’d been the best of friends.” But Ingeborg had just closed in on herself. That was too bad, because they had always considered themselves such good friends. Maybe they couldn’t talk about her personal problems. And so maybe this is why they drifted apart, even though they had been the best of friends. If I’d been smart enough, I’d have said, “Well, Margrethe, why don’t you go and call on her?” But there are ways that you do things. This is one thing I learned from my mother-in-law: There are ways to do things, and there are incorrect ways.

She did not last too long, Ingeborg. While we were there in ’52-’53, she started getting forgetful. Eric, who was ten at the time, would take the streetcar down to the center part of Copenhagen to visit her, and she would be out, forgetting that she had invited him for dinner. Things like that. And he would just come back home. But he was a sweet youngster—he would keep going back. He was so pleased to meet his mother’s mother. Sometimes the cook would remind Ingeborg that her grandson was coming and she’d be there. So they became fast friends. But she only lived a couple of years after we returned to the U.S. Life was just too hard. She just shriveled up and died.

After she died, I wrote to friends of Tommy’s—the Brostrøms, his colleague at the Niels Bohr Institute—saying it would be nice if Eric had some contact with the Chievitz side of the family. And the Brostrøms found out that Claus Chievitz, Ingeborg’s son, had indeed recovered from his addiction. He was currently the head of a hospital in Jutland and he had divorced and remarried. So I then sent a letter to him, saying, “You have a nephew, if you would ever like to correspond.” During our earlier visit to Denmark, he had visited us once—came all the way from that island just to see Tommy and Eric. I guess it was a different life for Claus now. I never did hear from him again or anyone on Eric’s mother’s side of the family.

ERWIN: Did Eric learn Danish?

LEIGHTON: Yes, when we lived there in ’52-’53—while he was in the fifth grade in a Danish school. But he’s since forgotten it. Eric never returned to Denmark. He had finished high school at the time of our next visit, in ’63-’64 for another sabbatical. Eric was not sure about

continuing his education, not sure of what he wanted to study. So he stayed with Charlie and Sigrid and went to PCC while Tommy and I and the two younger kids went back to Copenhagen. During that year, we spent much time with Aage and Marietta Bohr, and Ben and Nancy Mottelson. Our kids spent much time together.

Tommy died in 1973. So much happened during those last ten years. Charlie died in 1968, and soon afterward we lost our youngest son, Chuckie. Then in 1970 Tommy learned he had cancer and struggled with it for three years. Even so, we managed one more short trip together to Copenhagen in 1972, when the institute invited Tommy for some sort of commemoration for Niels Bohr.

When Aage and his wife Marietta came here for Tommy's memorial service, they convinced me to come back to Denmark for a visit. I wasn't able to bring myself to go until 1976—again, prompted by some celebration or other there. In the meantime, Aage and Ben Mottelson had gotten the Nobel Prize in physics. Aage and Marietta's oldest son, Willie [Vilhelm], had entered medical school. In 1974, Ben's wife, Nancy, developed melanoma and died. And then in 1977 Marietta Bohr developed a very strange cancer and died as well. So all of those three good friends—Tommy, Nancy, and Marietta—gone, all within just a few years of each other.

When I was there in '76, Marietta had said to me, "Why don't you get married again?" I was working hard with consulting. I had had a wonderful life. We were sitting in their garden, and she said, "I think you should get married again." And I said, "But I've had a good life." She said, "Yes, but that means you could still have more good life."

Actually, way back before the start of my trip, I had been talking to Bob [Robert B.] Leighton and Gerry [Gerald J.] Wasserburg the night before I was to leave. I had said to them, "I don't think I can really go to Denmark, because it's just going to be too painful"—this being my first time going back without Tommy. It was at the June faculty reception at the Athenaeum. And both Bob Leighton and Gerry Wasserburg said to me, "Of course you're going to go, and you're going to have a good time." And, of course, I did.

It was so funny. When I came back, I had forgotten all about Marietta's words of wisdom. So then Bob Leighton phoned me shortly afterwards and wanted to know how the trip went. And then he said out of the blue, "Wouldn't you like to go up to JPL [Jet Propulsion Laboratory] and watch the Mars landing?"

So it began. And I couldn't believe it.

[Tape ends]

MARGARET LAURITSEN LEIGHTON**SESSION 3****June 23, 1995****Begin Tape 2, Side 1**

ERWIN: Mrs. Leighton is recounting some of what she did on her very recent trip to Denmark, where she met with Sigrid Lauritsen's nephew. Can you tell us about that?

LEIGHTON: Yes. His name is Kaj Løgager. He's roughly sixty years old. His wife works for the minister of finance, and he works for the *Berlingske Tidende* newspaper and has worked there for forty years. Kaj is the son of Sigrid's brother, Aage, who died at the ripe young age of ninety-seven last year. He told us some of the very things that we had heard earlier, saying that Sigrid was certainly the bright one of the family and had helped everyone with their mathematics. But he didn't have much to say about some of the questions we were concerned about—postwar and World War I and whatnot—even though Sigrid and Charlie went back to Denmark just about every summer, and they would take Tommy along and visit their families.

ERWIN: So this nephew would have remembered all of that and remembered Tommy.

LEIGHTON: Yes, he was a tiny tot then. They would go back during the time from the early twenties or until the war broke out. And this youngster, I think, was just born about that time. So mainly he was counting on what his father had told him about his sister.

ERWIN: Was there any more light shed on her ambitions to study?

LEIGHTON: Yes. She was interested in medicine when she was at the university in Copenhagen. She had started some classes, but then she got married, and Tommy was born. But she didn't really go into her medical studies in depth until she went to USC Medical School much later.

ERWIN: So it was mathematics that she was principally interested in?

LEIGHTON: Yes. And she told me that she had thought about going into mathematics. But as I

said, if she went into radiology, she thought it would fit in closer with her husband's work.

ERWIN: That's interesting. She actually had this in mind, that there would be some interaction between them.

LEIGHTON: Yes. I guess when she was at USC, she had to make the decision about radiology. At that time, Charlie was involved with radiation at the laboratory on campus, so it fit nicely, even though she had to go through all those times of going to school, and residency, and really not being able to participate very much in the social life of Caltech.

ERWIN: Did she actually have any official function in the high-voltage lab when cancer treatments were being done there?

LEIGHTON: No. There were other doctors from USC involved at the lab—Dr. Seeley Mudd and various others. Sigrid did become a member of radiology associations. I think in a way she probably kept abreast of what they were doing at the high-voltage lab, but she did not participate in their clinical work.

ERWIN: Did she ever express any opinions about the medical aspects of the treatment? Whether it was successful in her opinion?

LEIGHTON: She did not. She was a tough cookie. She did not like to give opinions—except to me on how to raise children. [Laughter] But she would not give any medical opinions. She'd let the men do their thing. It was just her way. Sometimes I'd have to really almost drag something out of her. Like, I'd ask her, "You take Vitamin E? Why do you take Vitamin E? Why didn't you tell me about it?" Things like this. She just stayed away from discussing any medical issues.

ERWIN: We may have gone over some of these things before, but I'm going to ask a few factual questions, so that we can round out the picture. Did she have a private practice, or was she on the staff of a hospital?

LEIGHTON: She was on the staff of Los Angeles County Hospital. She went directly there from medical school. She worked there full-time in the hospital but still took care of her husband, son and then her grandson. Also, she would always work Christmas Day and other holidays in order for the other staff members to take the day off.

ERWIN: Was that her own choice?

LEIGHTON: Yes, her own choice. Of course, in Denmark you celebrate Christmas on Christmas Eve. So Christmas Day she would be down at the hospital, and she would do things like that. And Thanksgiving Day, since I always cooked Thanksgiving dinner, she would work all day and then come up. Her purpose was to give the younger people and other people with families a chance to be with their families on the holidays. That certainly went on for all the years that she was working.

ERWIN: How long did she work? Right up till she had to retire?

LEIGHTON: I believe she worked until the age of sixty-five. And I thought she would find it difficult to quit, because she worked all her life. But she explained that if she kept working she would have to pay more in taxes. [Laughter] I told you she was a practical woman. Also by that time Charlie was getting sick off and on. I know a dear friend of ours, Mel Jacobs, who was chief radiologist at the City of Hope until he died—he wanted her to work part-time there. And I thought, someone who's worked all her life, she can't just stop. But she turned them down. And Stewart Harrison, who was in the radiology department at the Huntington Hospital, wanted to know if she'd be a consultant there. But the answer was no.

ERWIN: She'd made up her mind.

LEIGHTON: Yes. Her way of dealing with changes. I was really very surprised. But she did that. So then she was home with Charlie when he had illnesses off and on, before his final bout of cancer. But she never went to the doctor herself. It got to a point where once when Charlie had a doctor's appointment he told Sigrid that he felt that she should see the doctor, too. And he said he wouldn't keep his appointment until she saw him. It turned out she had carcinoma of the

colon.

ERWIN: Was that discovered then by chance?

LEIGHTON: Well, evidently she had some symptoms and she just wouldn't do anything about it. In fact, she had fallen and broken her arm and she just put it in a sling and that was all she did. So when she went to the doctor that time with Charlie, they ended up making him reschedule his own appointment because they immediately felt there was something seriously wrong with Sigrid and popped her in the hospital. She had to have surgery for cancer. Dr. [George L.] Mulfinger, whom she had taught to read films back at SC Medical School, was the orthopedic surgeon who always took care of her broken bones. He set her arm while she was in the hospital, and she recovered from her cancer surgery long before her arm healed. She had that cancer many years before her son did. It was the same cancer. But she survived it. So that was the one time Sigrid Lauritsen went to the doctor. And then after Charlie died, every once in a while she'd fall and break a leg or a hip or a bone of some sort, and then I'd have to see that she got to the hospital and got them to take care of her. Otherwise, she wouldn't go.

ERWIN: So she was not one who had regular checkups?

LEIGHTON: No.

ERWIN: Even after the cancer?

LEIGHTON: Even after the cancer. She realized that sometimes with a broken bone you had to do something about it. But again, she was a practical person. When she was ninety-five, ninety-six, she had fallen, and the woman and the husband who were taking care of her phoned me. She said, "I'm not going to go back to that hospital." She was this poor little old woman who was just a little bump in her bed. So I phoned the doctor. He was in surgery. However, I asked him, "Well, what will happen if she stays in bed, if we don't do anything about it?" They had already sent the technicians to take X rays at the house. He said, "Well, the bone is protruding. It's going to get infected. She'll become delirious, and then you'll have to bring her in." So I went back and I relayed that to her. So she gave in. She was very clear to the end of her life, so she

did allow me to take her to the hospital, as long as I promised to bring her right home and that she would not have to stay in a convalescent hospital. And I did that. It was not long after she had returned home, she became weaker, got pneumonia, and died. It was just the way she was—very, very practical. And I think I've said this before, a remarkable person.

ERWIN: While we're on this subject, maybe you could just mention—how long did his [Charles Lauritsen's] illness last? Was it a protracted thing?

LEIGHTON: Well, he had ileitis before he got the cancer, so that was in the early sixties. He was on medication—he had a lot of cortisone. When he went to Korea, when he was doing some consulting there for the Defense Department, and people would shake his hands, then his hands would be black and blue just because his skin and blood vessels were so fragile. And I'd say, "Well, put your hands behind your back, Charlie. Don't let them touch you." But of course, when you're being helped in and out of a plane, there's nothing much you can do.

He died in '68, so it must have been four or five years as different aspects of his cancer came through. And before that, it was his stomach—his ileitis. But he never complained, though he'd be in and out of the hospital.

ERWIN: In what year did Sigrid Lauritsen pass away?

LEIGHTON: 1987. And she was born in 1891, so she was ninety-five years old.

ERWIN: Why don't we jump now to the Friday evenings at the Lauritsen house. Now, this was after the war, right?

LEIGHTON: This is after the war.

ERWIN: And you were married to Tommy in what year?

LEIGHTON: We were married in '46. Then in 1950 we moved out of our small house in Altadena down into Pasadena, closer to Caltech.

The guys would have their Friday night seminars right after dinner. They'd come home,

eat dinner, and dash back and have a seminar. And then after the seminar, they would come back and have some beer and continue their talking, and then singing. Tommy played the piano. They would all relax. That would be the beginning of their weekends, even though quite often all the guys would go back to the labs on Saturdays and Sundays. There would be students there at the parties. That was important. And also members of the staff—secretaries—were always invited.

ERWIN: So was it a kind of open invitation for every Friday?

LEIGHTON: Yes. We would sometimes meet at our house or at Willy Fowler's. We would trade around, to the [Alvin] Tollestrups' or the [Ralph] Kavanaghs', [Robert F.] Christys', [Charles] Barneses', or the [Ward] Whalings'. And usually, because we weren't earning very much, we would bring our children and then sort of bunk them all down in one of the children's bedrooms. This turned out to be a regular affair. As time went on, I guess, many of the wives were beginning to feel that, well, the men shouldn't have to go back and have a seminar at night. Maybe they should have it during the daytime, so that they'd have more time with their families. In those days—compared to today—I think the husbands were not at home as much as they are now. And I think this is true: You find more wives working now; therefore they are having to share the family responsibilities. So I believe the tradition has changed.

But those gatherings were lots of fun. Often we'd meet at Charlie and Sigrid's house, and there Charlie or Tommy would play the piano.

ERWIN: And what did he play?

LEIGHTON: Well, many of the old Swedish songs, as I said before. And then, of course, when everyone would join in, all of your "Daisy, Daisy"—you know, from the era of the twenties and thirties. I think when we moved down in 1960 to our Rose Villa place, they had already had a little band at the lab. One of the students played the saxophone, one the trombone, trumpet, and one played the drums. So we'd have this band going. It was called the Tandem Accelerator New Brass Band at one point. We would have singing and dancing. I think we made many tapes of those parties. It also became a custom for us to have the New Year's Eve parties at our house. And, again, we'd have the band play and lots of food and drinks. You know, you just did

not count on doing anything else on a Friday night.

ERWIN: And this was all physics people?

LEIGHTON: Yes. And I used to complain, because I wanted to meet people in other departments. But Tommy had such a strong feeling about every single person—students, staff, visitors from throughout the world—as long as they were physics-related. Of course Tommy considered Gerry Wasserburg to be a geophysicist, and there were a few others who were included. So it seemed to take up all our time for any entertainment. And I'd get a little grumpy about that. I was becoming more and more familiar with other people on the campus. There were people who were not in physics.

Did I tell you this? In '47, just before Doris DuBridge, the wife of the new president [Lee A. DuBridge, Caltech president 1946-1969], arrived, I got a phone call saying, "This is so-and-so, president of the Caltech Women's Club. And we'd like to have you serve on the committee greeting Doris DuBridge." And I was befuddled. [Laughter] What the hell club was that? It turned out that I was a member all along. My mother-in-law had paid my dues. She wanted me to become a member of the Caltech Women's Club.

ERWIN: Had she been a member?

LEIGHTON: No, so I guess she felt someone should represent the Lauritsen family. I was sort of flabbergasted. And I thought, well, I was caught. OK, I will. And I went to two meetings to plan for just my part of making the floral arrangements. I thought that was a big waste of my time. [Laughter]

It was at Imra Buwalda's [wife of geologist John P. Buwalda] home. They were all nice people. But here I was trying to raise a family, going to school, and becoming active in the local community politics. And sitting around determining how to make the flowers for this big tea for Doris DuBridge was not really my cup of tea. But I did my duty. I mean, they were certainly all very nice people, but it just wasn't part of my agenda.

ERWIN: So you didn't stay with the Women's Club?

LEIGHTON: I went to the reception. And that's when I met Jeannie Bacher [wife of physicist Robert F. Bacher]—the DuBridges brought the Bachers along with them to Caltech. And I became very fond of Jean.

But then I thought I should see what their meetings were like. It was just the beginning of a schoolboard election campaign. And Sigrid Ward, whose husband [mathematician Morgan Ward] had been at Caltech, was a candidate. And there were other people in the community who wanted to do something about our schools. So I phoned the president of the Women's Club, and I said, "You know, I think it would be very good if we could have some of the schoolboard candidates come and speak to us." And she was horrified. She said, "Our club is a social club. We don't get into anything like that." So I didn't have anything to do with them for years. I don't how long my mother-in-law paid my dues for me, but she did.

ERWIN: But you didn't go to the meetings.

LEIGHTON: No, no. But it was just as well. I have a bit of a short fuse. I also was rather naive. I was becoming politically active. I would do rather shortsighted things. I can think of one evening at a party at Sigrid and Charlie's, and the DuBridges came to the front door. And I greeted Lee DuBridge with, "How could you support Nixon?" You know, these kinds of things. That's not the way you greet people. But anyhow, I did vent my feelings but later realized that I had to be a little bit more thoughtful of where I was and what I was doing.

ERWIN: We're now in the DuBridge period.

LEIGHTON: Yes, in '46 they came there, to Caltech.

ERWIN: As you've been talking, a lot of things have occurred to me. For example, who were your friends, particularly? You mentioned Jean Bacher. Were there others?

LEIGHTON: Yes. Bacher. And Ardy [Ardiane] Fowler [wife of W. A. Fowler]. And Lee Langmuir [wife of Robert V. Langmuir]. And Stewart and Helen Harrison—although he was a local doctor, he had worked with Charlie in the high-voltage lab before the war. The Christys. The Tollestrups. The Whalings. The [Leverett] Davises. And then Charlie and Phil Barnes

came in '53. Their children were a little bit younger than ours, and we became good friends of theirs. These were all Kellogg people.

ERWIN: So you pretty much had a circle of friends linked to the Kellogg Laboratory. And it didn't go much outside of that?

LEIGHTON: Well, certainly being active politically in the community, I was developing friendships of my own. I was active in the local Democratic Party, and I was one of the founding members of the Democratic Women's Club of Pasadena.

ERWIN: Did you feel that you had friends and people on campus who were sympathetic to your point of view or to your political feelings?

LEIGHTON: Sure! The faculty certainly. I think the students were. For a long time, the undergraduate students were more conservative. But then in 1960 I was helping to run the Pasadena headquarters for the Democratic Party, and the people I could count on were the graduate students at Caltech. I could phone them in the middle of the night—because toward the end of any campaign, just before an election, people tend to become panicky and want to know what they can do, even though they hadn't been active for the four previous years. So people would phone me and say, "What can I do?" The people I could count on were these Caltech graduate students. They would help me get things ready for this last-minute surge, and that was a big help.

I think the Board of Trustees, of course, were extremely conservative. This was during the cold war, during the bomb testing. There was one trustee, in fact—his name was John McCone—who was so paternalistic. Tommy had signed a group letter saying that they felt people needed to know more about all the aspects of nuclear bomb testing. And this trustee was so patronizing, saying, "Shame on you," writing a letter to a faculty member, telling him that he was out of line. He said to Tommy, "You're just naïve, you don't really know the facts." And he was a guy who made a lot of money during the war, building ships.

ERWIN: Do you think opinion was really polarized on the campus? Let's say during the [Sen. Joseph R.] McCarthy period, when there were so many hot political issues. How do you recall

that?

LEIGHTON: You see, there again, the faculty people we knew were in Kellogg. They tended to be in agreement in their concerns about nuclear testing and openness, though they had different levels of participating. I think that probably where you found the conservatives were with some of the trustees.

ERWIN: There was tension between the board and the faculty?

LEIGHTON: Well, no, not really. I wouldn't say it was tension. I think there were many good people, like Stanton Avery, [Albert] Ruddock, [Arnold] Beckman and others on the board who were wonderful guys. But I think this particular trustee who wrote the letter to Tommy, chastising him for signing the petition to the president—maybe he was really the only one. Because, on the whole, I think the function of the trustees was to help the institute. I didn't get the feeling that there was any antagonism. Part of it is, people like Tommy were just junior faculty, and they see all these big guys out there misleading the public. I think there were many people in government who, we certainly felt, were not giving the public the correct information.

The one thing that I did, I was one of the charter members of SANE, the National Committee for a Sane Nuclear Policy, in Los Angeles. That was during the fifties. Tommy used to kid me about it. He'd say, "Oh, you're with a bunch of peaceniks," or something. It's true, but I learned a good deal from those peaceniks. I was also on the board of the West Coast branch of the SANE Nuclear Policy Committee, and there were some very fine people—a couple of rabbis, people from different parts of the community. And I was the only one from Caltech. I was not really Caltech, because I considered myself to be a student, not just a faculty wife. But I did participate in saying that we should provide correct information. My concern was that people be given the facts.

Whenever we had a board meeting, our policy was that we would not make any public statements without the consensus of the whole board. But one day I read in *Time* magazine, "SANE Nuclear Policy Committee sends flowers to Mamie Eisenhower on Mother's Day." I just got furious. I thought that was so stupid. I felt we would not be treated with the respect that we wanted to have. So I phoned up the chair and complained: "No one phoned me about this."

[Laughter]

Tommy and I went once to Temple Israel in Hollywood when he was invited to give a talk, mainly describing nuclear energy in a very clear manner but letting people know what was going on without getting into any political issues—it was strictly some factual material. He and [physicist] Matt [Matthew] Sands, who later went up to Santa Cruz—and maybe a couple of others, but Tommy and Matt were the ones who were willing to go out and speak at public gatherings.

ERWIN: The point was that they were there to give technical information—and not to take a political position?

LEIGHTON: That's right. Finally, one day a speaker was sick and I got a call from someone on our committee. They said, "We need a speaker." So I said, "Matt Sands." They said, "Oh, no, he's too serious; he's too factual."

ERWIN: Do you think they meant by that, too hard to understand?

LEIGHTON: No. No, they wanted someone with emotion. And I was furious with them. They would do other similar things at meetings. A lot of people achieved their political goals in different ways. And I would realize that there would be people who had different agendas. There were people out in the Pacific wanting to blockade and do things that would cause some damage. Or we'd have someone say, "Well, let's have a film made, with children dying." You know, fallout from the nuclear testing. And I'd say, "No. I don't believe in working on people's emotions." And that's what I had against Nixon.

They kept coming up with all of these ideas. And I thought, OK, I'm not one of these martyrs. I felt that I had spent enough time. Because my purpose really was just to get the facts out. And then it turned out that there were a lot of people who felt that the only way you could really get public support was to appeal to their emotions. So this rabbi and I both sent our letters of resignation in. That was the end of the fifties, when I got out of that.

ERWIN: Did you ever have discussions with your husband about the difficulties of balancing one's political opinions? And then there was the whole scientific issue of having this technology

that was capable of mass destruction and how that would be managed.

LEIGHTON: Well, we both felt that it was important to have nuclear energy. One really could put it all in a proper perspective; a lot of human suffering is created by coal mining. Often I would resent how the media would play it, as though it was something pretty evil, without giving the proper reasons for having nuclear energy. At times Charlie would say part of him hoped the bombs wouldn't work. But then he'd realize something still had to be done to end these conflicts.

I know that Charlie and Tommy were both very sympathetic with Robert Oppenheimer. People were just scandalized by the way he was treated. But that was part of the McCarthy era mentality. In the late fifties, Tommy was trying to get clearance. Someone came by from the FBI asking my neighbors about what Tommy's life was like at home. My neighbor said, "Well, I'm not going to tell you." And they would come around to the lab and poke around.

ERWIN: Were you able to just brush it aside?

LEIGHTON: Oh, sure.

Tommy served on several of these government committees and took it very seriously. Both Charlie and Tommy served on these committees during the Vietnam War. Then Tommy came home one night and was so furious. He said, "[Secretary of Defense Robert] MacNamara lied to us." And he was shocked. He was really shocked. This was during the Vietnam period, and they were trying to decide how they could keep the North Vietnamese from invading the South, and they had all the foliage cleared out, because it's very, very difficult working in that kind of environment. He didn't really go into detail, because after all, it was something confidential that they were working on. But he came home, and he was so disillusioned and shocked, because MacNamara was supposed to be a first-rate guy. And he said, "MacNamara lied to us." Which also meant that Johnson did.

So after that, I believe Tommy took a different role.

ERWIN: So that may have been a turning point for him and his government advising.

LEIGHTON: Yes. But I think if he had been asked to serve, he would have done so again.

Charlie certainly advised the government a lot. He was a very wise person. And, again, he would be in the background—being able to see the whole picture and give advice and consult. He did so even back during the World War II years.

ERWIN: Do you feel that they were in agreement with the objectives of the administration? In the fifties in the Korean War and then again in the sixties in the Vietnam War?

LEIGHTON: Charlie went to Korea. He was there in '51 for the Weapons Systems Evaluation Group to observe the progress of the new weapons development in that action. I think it was mainly with the navy.

ERWIN: In fact, he had written up some of the landings, as I recall from his biography—Inchon landings?

LEIGHTON: I think Charlie participated in the Inchon landings. But aside from that, he did not go into combat.

ERWIN: So they felt their role was really to provide the technical advice?

LEIGHTON: Technical advice. How to proceed, how you can achieve something, without getting too much into the political aspects.

ERWIN: But obviously, at some point, Tommy did go over into the political questions.

LEIGHTON: Well, yes. But it stemmed from the fact that we were not being given accurate information. And that was what was bothering a lot of people. So I would say that that was not purely a political decision but rather speaking out against the misinformation of Lewis Strauss. He was head of the Atomic Energy Commission. I just didn't trust anything that Strauss said. The kinds of information that he publicly gave out—that there was nothing wrong, or something was needed. We were being given so much misinformation from the top level of government. Every chance I had, I would say, "Well, there are different political aspects certainly, but the main concern is that we have a chance to have some correct information."

When Kennedy was assassinated in 1963, we were living in Denmark. After we returned in 1964, Tommy and Charlie and Willy Fowler all trooped over to the Democratic headquarters down on California Boulevard where everyone was working hard to get Johnson reelected as president. It was just some local community branch office helping out. But that was the only time that Charlie and Tommy ever were politically active.

ERWIN: Actually working for a candidate openly?

LEIGHTON: Yes. It was probably a small group of Caltech people who worked out of that office.

ERWIN: And did that continue?

LEIGHTON: No. The election was over. Shortly after that, Charlie became ill.

Begin Tape 2, Side 2

ERWIN: Did you know [Robert A.] Millikan?

LEIGHTON: Well, not personally. I would see him on the campus. He looked like an eighty-year-old dean, walking around the campus. He was so old. And it wasn't that he acted old, but I knew that he was eighty. And to me that was ancient. Now that I'm seventy-four, I feel that that was not so old after all, especially, after knowing people who are ninety-five and a hundred.

He did not come around to parties. Maybe that was just his age. But I think noisy parties weren't his style, and maybe they forgot to invite him. Also he was very frugal. I think that he knew how to get money from people to build laboratories, but he was a very correct person.

ERWIN: So he wouldn't have joined in on the Friday evenings, for example.

LEIGHTON: No, no. Once in a while we would get the DuBridges. Sometimes there might be special parties at Charlie's where the DuBridges would show up. They never came to any parties at our house. Our parties weren't very quiet.

ERWIN: Did you feel comfortable with the DuBridges, on the whole? Were they easy to know?

LEIGHTON: Well, Doris was so different from Arrola, who is now still living—his second wife. [Arrola DuBridge died shortly after this interview on September 30, 1995—ed.] Again, they were very correct. I didn't feel that I really knew them—because I didn't go to the Women's Club and their meetings, and that's when Doris would show up. She'd entertain them in the garden at their house on South Hill.

ERWIN: Was she actively involved in the Women's Club? And people who were active in the club, did they get to know her?

LEIGHTON: Yes, they probably did. Doris would phone up all the young teenage faculty daughters to come and have tea for the new incoming freshmen. There were no women undergraduates on the campus during those years. All of the faculty members' daughters who were between the ages of twelve and sixteen would get these calls.

ERWIN: And were they expected to wear gloves and hats?

LEIGHTON: They were probably supposed to. If so, my daughter certainly disappointed them when she did her stint.

As I say, they were quite proper. The one party at Sigrid's, where I asked Lee about Nixon, we were out in the garden, and they had a huge lily pond and big bullfrogs. I was standing next to my mother-in-law when Doris was saying goodnight. And Sigrid had one of the bullfrogs in her hand and extended her hand to shake hands with Doris. And Doris didn't bat an eye—having grown up in Iowa, I guess she was sort of used to bullfrogs. But there she had a good laugh. And I guess that was the only time I ever recall seeing her laugh. She was rather austere.

Even though it was for a shorter period of time, I got to know Arrola, and I found her a fascinating woman who had done so much. She had a rewarding career.

ERWIN: What was her career, by the way?

LEIGHTON: I believe she was sort of like a dean on a ship that went around the world—I forget the name [World Campus Afloat]. But she had also been in academia; she had taught. I feel badly about not seeing more of her. She had a sense of humor; she was gracious and very interested in the world. You see, Doris and Lee moved down to Leisure World after he came back from Washington. And Tommy and Doris died about the same time. And then Lee and Arrola and Bob [Leighton] and I married about the same time. I remember Arrola saying that she just couldn't stand Leisure World. Bob had his house on Homet Road, just three blocks from the campus, and we were trying to sell that and get a place at the beach, because we were going to live in my house. The DuBridges were looking for a house. And Jane Caughey knows everything about real estate in Pasadena, near Caltech especially. So the DuBridges bought Bob's house and moved up. This way they were only a couple blocks away, and they could come to all the functions. And Arrola just really fit into all of this and became a much more active person in the community, I think, than Doris had been.

ERWIN: Now, did that mean that Lee DuBridge became more of a factor in your social world? Did you get to know him better?

LEIGHTON: Yes, I did. And I no longer chided him about Nixon. [Laughter] Yes, we would see each other more often.

I can remember, back in '56, '57, DuBridge and Charlie really brought about having a big increase in salaries, so that Caltech would be competitive with places like Stanford and Harvard. Charlie's policy was to say, "Those of us who are close to retirement and no longer have teeth straightening and piano lessons and things like this, we do not need the increase, it should go to the young people." And I don't know whether many people realize that Charlie was the big force behind that. But everyone was so amazed and pleased that DuBridge then did come up with a huge increase in salary for the younger faculty.

ERWIN: Had the salaries been low, do you think, just because of Millikan's renowned frugality?

LEIGHTON: Probably.

ERWIN: So this was fairly early on in the DuBridge period?

LEIGHTON: Yes, and people felt good about that.

ERWIN: Did people respect DuBridge, in general, do you think?

LEIGHTON: Yes, sure; they really did.

ERWIN: He had some hard things to contend with. He had some of the things that were connected with the McCarthy era. For example, the Tsien [Hsue-Shen] episode. I don't know if you remember anything about that?

LEIGHTON: No.

ERWIN: And then the Pauling situation. Did you know the Paulings?

LEIGHTON: Yes. Linus's political opinions were certainly controversial. But then he left Caltech in the early sixties.

After Charlie's death in '68, Harold Brown came to Caltech [as president].

ERWIN: That was '69 when Harold Brown came.

LEIGHTON: Probably. That was the year we lost our son, so we were not very active socially. It was hard for both of us, because Charlie died in April '68, and then Chuckie in January '69. Then friends of ours got us to go to Australia to sort of get away for a little bit—just for a month, for some meetings and seeing friends. And when we came back from Australia, Tommy had cancer. That was in '70, I believe. He had the surgery and thought everything was OK.

ERWIN: He felt well?

LEIGHTON: Yes, but you could see we were still suffering about our son. And Aage Bohr said, "Why don't you come on over. We're going to have a big celebration in Denmark." So then we went to Denmark. Let's see, meanwhile our daughter and Bill Press got married in September '69. They had just graduated, and I guess they thought it would help get our minds off of

Chuckie, having a wedding out here. I was a zombie.

Then Bill started graduate school here at Caltech, and she at UCLA. That was when Harold Brown came. Tommy had been on the search committee. And Charlie had also been. They both thought highly of Harold Brown.

Then in 1972 we went to Denmark and spent a month there. But by then his cancer recurred. I felt that our son's death took so much out of him, although he was insisting on the top level of treatment they could give him. I felt maybe he didn't have the zeal to live.

I was doing some consulting—demographics and research for the school district. I'd bring him to his office and he'd work in his office for an hour or so, and then I'd take him home. He got everything filed—sort of knew that things were coming to an end. He quit teaching. He taught as long as he could, but he quit teaching when he felt that he wasn't able to give as much thought to his students. He was teaching up through June of '73.

ERWIN: Where did he have his treatments?

LEIGHTON: At the Huntington. At first he had chemotherapy and then he had radiation. But there's one thing—if we can go back a little bit—which really touched me. Now you probably have these [in the Archives]. This is Tommy and Nick Cabot's correspondence. Nick was a twelve-year-old kid who lived in Long Beach who wrote. He wanted to know something about Caltech. This was in '66. And Tommy kept up writing to this kid and invited him with his family to come up and have lunch at the Athenaeum. And it went on. And he then graduated from high school. He seemed very bright. And then he went down to UC San Diego and came up once with a friend. And that was during Tommy's illness, when he spent much time lying on the couch. This was not too long before he died—maybe it was after the first operation.

He came up just to see us, and he said that he was not doing too well at the university. So when Tommy died, I tried to reach him. We couldn't find his family, we couldn't find this kid. I wanted to let him know, because they had worked up such a sweet correspondence relationship. He only came up a couple of times to Caltech. And Tommy would send him books. He gave him a little book on nuclear astrophysics by W. A. Fowler. He also had a younger sister. He would write family things.

ERWIN: How did this get started?

LEIGHTON: Well, this kid wrote almost like an open letter to Caltech, and Tommy ended up with it. And then he wrote back and thanked Tommy for answering his letter. He was so sweet. It brought out Tommy's personality and his respect for youngsters.

Fay [Ajzenberg-Selove] also later sent me some of Tommy's letters to her, and that same sweetness and sense of humor was apparent in them. They were from when she and Tommy were working on the atomic nuclei tables. Tommy, of course, was hard on her, being her mentor and the guy who first hired her when she got her doctorate. But I myself didn't have that many letters. Tommy didn't travel too much; when we traveled, it was together, and if he'd go to meetings, it would be such a brief period of time. Sometimes he'd send me one letter. So I didn't have many letters from him.

So Fay sent me copies of all the letters, because there would be a little of him in them—certainly most of it would be on their light nuclei. And that was very sweet of her; it gave me a chance to read through his letters.

Tommy had played the violin in the Caltech undergraduate orchestra.

ERWIN: Did he play any other instruments? Was he a natural?

LEIGHTON: No, he played the violin and piano. And he would love teasing people, like Stewart Harrison, who were purists—you know, playing the *Appassionata* [Sonata, by Beethoven] and playing the wrong notes on purpose. That was his sense of humor. [Tape ends]

Begin Tape 2, Side 2

LEIGHTON: Fay came out to speak to the women at Caltech.

ERWIN: And that was this year?

LEIGHTON: Yes. In early spring. She was telling the women that she had sent a letter to the president of Caltech [Thomas E. Everhart], saying that she and her husband were thinking of making changes in their wills and they wanted to have a little more information from Caltech. Before they made any final decisions, they were wondering what Caltech was doing about women in the physics and math departments. She said that her answer from the president was

very poor. This was too bad, because they had sent an identical letter to the University of Chicago, where Wally [Walter Selove] had been a student. I don't know what they ended up doing.

ERWIN: Poor in what sense? It was just not articulate, or it just didn't give them the information they wanted?

LEIGHTON: That's right, and she didn't feel that there was any real thought put into it. She was very disappointed in the answer.

Tom Everhart and his wife were on the trip to Galapagos with us, and I said, "Gee, my good friend Fay"—because she's been my friend; we celebrated our forty years of friendship. I said, "I understand that she sent you a letter, and she wasn't too happy." And he said, "Well, I'm not going to have anybody telling me what to do." He sort of went on the defensive. So then he said, "But maybe I should visit them when I go to Pennsylvania." I said, "Well, that's something that you have to decide." But I was a little bit unhappy about it, and I know that she was. And the thing was that she told this to the undergraduates at Caltech—how concerned she is that women be given positions at top institutions, top levels in science and math.

ERWIN: Did she mean students or did she mean faculty?

LEIGHTON: Faculty.

ERWIN: So she might be interested in endowing a faculty position or something like that?

LEIGHTON: Well, I don't think she is anymore. But it could have been. I know that she's going to endow a chair at Penn in her husband's name. They do have quite a bit of money. They were never able to have any children. And her father had left her money. He had certainly been a workaholic—had two companies. So it wasn't that they were just talking peanuts.

Fay had sued Penn and won; she was sad that she couldn't teach for two years while the case was being fought. It had to do with giving her a position, an increase, and they gave it to a guy who hadn't done half of what she had done. And NOW [National Organization for Women] supplied an attorney. She was willing to pay the attorney, but NOW said no, we want to supply

the attorney and fight your battle for you.

ERWIN: Does she tell this story in her book [*A Matter of Choices: Memoirs of a Female Physicist*, Rutgers University Press, 1994]?

LEIGHTON: I believe she does. Wally's my age—seventy-four—so he retired a year ago. And the administration said to Fay, “Are you going to retire, too?” And she said, “I'm not going to retire until you have some women holding top positions.” Actually, Penn has a female president. And Fay doesn't really know the president well enough to evaluate her. In the meantime, she will continue to teach as long as she is able. [Tape ends]