



RUTH J. HUGHES
(1915-2009)

INTERVIEWED BY
SHIRLEY K. COHEN

December 1998 – January 1999

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Subject area

Chemistry, women

Abstract

Born and educated in Germany, Ruth Hughes emigrated to England in 1939, just prior to the outbreak of World War II. Having been denied access to university training in medicine because she was Jewish, she had decided to study nursing and was hired as a student nurse in Birmingham, England, where she spent the war years. In her three-session interview in 1998-1999, she recalls her decision to leave England for the US (1946) and her chance meeting with Barbara Low, a crystallographer and student at Oxford under Dorothy Hodgkin; and through Low her introduction to Edward Wesley Hughes, a Caltech research associate in chemistry and a crystallographer. Ruth Hughes works in the US as a nurse in New York and Boston; she marries Edward ("Eddie") in England during his sabbatical at Leeds (1951); his interest in car tours and motion picture photography helps in the formation of a social group. Recalls her husband's assignment to represent Linus Pauling at the Royal Society in London, early 1952; her meeting then with Pauling's colleague Robert Corey and his wife. The Hugheses return to Pasadena by way of South Africa and South America. Account of Caltech in the early 1950s: her early involvement with the Women's Club and introduction to Doris DuBridge (wife of Caltech president Lee A. DuBridge); the Hugheses' close connection with the Paulings; Mrs. Pauling (Ava

Helen) and her political and social ambitions; social expectations on Caltech wives at that time; her husband's loyalty to Pauling and the various tasks imposed on both of them as a result, especially the entertaining of visitors; the nature of the Pauling circle. Her involvement with Pauling's petition to the UN on a nuclear test ban; her husband's and other's opposition to Pauling's political work. Her interest in meeting and assisting Chinese and Japanese visitors; the Caltech Service League and Chem Wives. Circumstances of the Paulings' departure from Caltech. Current recognition of Caltech widows by Alice Huang.

Administrative information

Note regarding portrait

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Linus Pauling (left) and Edward Hughes at Pauling's 75th birthday party, February 28, 1976, Caltech Athenaeum. Photo by Floyd Clark. Courtesy of Ruth Hughes.

CALIFORNIA INSTITUTE OF TECHNOLOGY

ORAL HISTORY PROJECT

INTERVIEW WITH RUTH J. HUGHES

BY SHIRLEY K. COHEN

PASADENA, CALIFORNIA

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CALIFORNIA INSTITUTE OF TECHNOLOGY
ORAL HISTORY PROJECT

Interview with Ruth J. Hughes
Pasadena, California

by Shirley K. Cohen

Session 1	December 3, 1998
Session 2	January 13, 1999
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COHEN: Tell us a little bit about your background.

HUGHES: Well, I came to England from Germany, as a refugee two weeks before the Second World War broke out. I had been born in Germany and educated there. And I had finished my high school and was entitled to go to university, but of course I couldn't, because I was Jewish. So I took the next best thing in medicine and became a nurse.

At that time, what was left of my family had to apply for visas to go to America, which was the catch-all. My sister was the only one who had no trouble, because she was born in a part of Germany that was ceded to Poland; she came under the Polish quota, which wasn't as overloaded. Also, she became engaged to her boss, who already had family for one or two generations in New York. So she left—I think it must have been '39 when she left to go there. And one of my brothers—I had three brothers—managed to get to South Africa at that time under the children's transport, because he was not quite seventeen, which was the cut-off date. He had a friend from South Africa whose family had sort of promised to help—they had known about this children's transport. So he was shipped off.

I was able to go to England, because one of my cousins was working there. He was a physician and did research in Birmingham, in a hospital that had just opened, and it was easy for me, as a nurse, to get a work permit and a job there. I could immediately start as a student nurse

in a very new—brand new—hospital in Birmingham. And I had family there, which I could latch on to. So that was a great help.

COHEN: That was in '39?

HUGHES: That was in '39, and it was two weeks before the war broke out. I felt very much at home in England after a while. But then the end of the war came and I knew I could go to America without any great difficulty. I had a visa application for the United States that was still valid. I had a number—a quota number—to come to America. And I thought it would be great to go to America and see what it was like. My sister was very anxious that I should come, because everybody felt terribly sorry for people in England—they had such a bad time. But we didn't think so, because people sent wonderful parcels. My goodness! It was always an event when I got a parcel; the whole neighborhood would know about it, it was so extraordinary. But anyway, Why not go to America? So I came here.

But there was a shipping strike. I had all my papers, and I had finished my job, and I had planned to be gone by September or so. But there was no sign of any ship to go. So then I thought, Well, I'll go to Switzerland—because I had a cousin I wanted to see. But I was in London when this notice came that I was to report at Victoria Station to the boat train on such and such a date, which was just two weeks away. So I had to go and collect all my bits and pieces and say goodbye to people. Anyway, I never did go to Switzerland.

COHEN: What year are we talking about now?

HUGHES: This is 1946. We didn't know what ship we were to be on or what berth we would have. They told us that we would be told on the boat train.

COHEN: You're saying "we." Who else was...?

HUGHES: Well, I mean the passengers for this particular journey.

COHEN: But you were traveling alone?

HUGHES: I was traveling alone. And that is how I met Barbara Low, who was a student of [Nobel laureate crystallographer] Dorothy Hodgkin. She had got Barbara a place for a year in [Linus] Pauling's lab. I was walking along the boat train at Victoria Station, and Barbara was hanging out of one of the compartment windows. I looked at her and asked, "Is there any room in your compartment?" And she looked around as if she didn't know and then said, "Yes." There were three people in there and it turned out that they had met in a hotel the night before and decided they would stick together and would only allow anybody to join them that they approved of. Fortunately, they approved of me. The ship left from Portsmouth; it was a Liberty ship that had been a troop transport. I was terribly seasick the first day, and Barbara came with some brandy to rescue me. [Laughter]

COHEN: Was she a chemist or a biologist?

HUGHES: She was a crystallographer—a physical chemist. Anyway, this was the first time I heard the words "Pasadena" and "Caltech." Barbara would be at Caltech for a year, and then she had to go back to Oxford to get her degree. And I started out in New York, to get a New York nurse's license.

COHEN: You went straight to your sister?

HUGHES: I went straight to my sister. And of course my sister was very anxious to show me off and get me dressed up, because we had very few clothes—there were clothing coupons in England. Of course, it was pretty overwhelming to come from wartime England to New York, even in '46, when they still thought they were being rationed here. But it wasn't difficult for me to get a job, because nurses were employed, even without a license, in private hospitals. My sister's doctor, who was a friend of the family, put me into a private sort of nursing home. And I thought, Well, the thing to do is to go to university here. But for the license I had to do my required work first.

Then Barbara came back from England and said, "Look, I'm going to be in Boston. Why don't you come to Boston? It's a much nicer place." And I thought, That's fine! I didn't really care much for New York. I had my license by then and, of course, like an innocent, I thought I

could work in Massachusetts, which of course I couldn't. [Laughter] I had to find out the hard way. So I went to school in Massachusetts. I worked at Mass General [Massachusetts General Hospital], which had one floor where they employed all the foreign-trained nurses. I was known as "Limey," because I had a British accent. [Laughter] But that's all right; I didn't mind. I had a good time in Boston. I went to everything that was going on. There were two other foreign-trained nurses—one Swedish girl, one Danish girl—and the three of us just went all over the place together on our time off. We had much more time off than we ever had in Europe. In Europe, we worked like—well, it's like the nuns, practically. You'd live nearby and you'd do nothing but nursing.

And Boston is where I met Eddie [Edward Wesley Hughes, senior research associate in chemistry, emeritus, d. 1987]. Barbara had worked in Eddie's lab at Caltech. He was used to looking after visitors—and certainly looking after female graduate students, a great rarity at Caltech in 1946... They had no cars; he had a car, and he was known for taking everybody off to the desert or giving them the grand tour of California up and down the coast. That was part of Pauling's influence—Pauling's influence was very big in Eddie's life.

COHEN: But you met Eddie in Massachusetts?

HUGHES: Yes. I met him in Massachusetts because Eddie's father died. His mother had died five years before. And Barbara was the organizing type. Eddie's home was in Pennsylvania and he had to go back very quickly to dissolve the household after his father died. He found that, though his mother had died five years before, her clothes were still where they had been left, in the closets. So Barbara came down [from Boston] to help him. He was an only child, but he had innumerable relatives there, who looked at her and thought, Well, she's an English lady so she's different. What she did was organize the distribution of the estate, insofar as she said, "Oh, I know somebody"—meaning me—"who will take all these clothes and send them to Europe, where they're needed." That was all very well, but first she sent them all to the dry cleaners. [Laughter]

I had the afternoon shift at Mass General. I lived quite close to it in one of the little houses. One day I came off the afternoon shift—which was from three to eleven—a little bit

early, because I had helped somebody with a blood transfusion and some of the blood had gone all over me. Whoever was in charge said, “Oh, why don’t you go home and change.”

So here I was, outside the little house where I lived, and there was a car parked, which was very unusual. There weren’t that many cars around. And out came Barbara Low. She said, “I have somebody here with some clothes for you to send to Europe.” And I said, “Oh, dear, I’m in a great mess, but I’ll just run upstairs and open the door.” My gosh, I couldn’t face...

COHEN: It sounds like you were sticky.

HUGHES: Yes, sticky, but when I turned around, somebody had come already with an armful of clothes behind Barbara. And she said, “This is Eddie Hughes.” I said, “OK, please come in. Excuse me.” [Laughter] And that’s how I met him. This was in 1949.

I saw some more of him then, and at Christmastime he had to come back to Pennsylvania, and he always stopped off—since he was good friends with Barbara, that was all right. We were sort of a foursome, because Barbara by that time had a boyfriend, whom she finally married. She had to get a divorce first. So we were getting acquainted. And then Eddie invited me to come and see California. So I decided to do that before I went back to New York. Because I thought, Oh, I’m not going to stay [in America] anyway. I only had five years and they were up in ’51. I was going to go back to England—that was my idea. But you had to see California if you had a chance. So that was it.

I went out in the summer of 1950, and I stayed with one of Eddie’s friends here in Pasadena—who was what I always said would have been my mother-in-law if I’d had one. [Laughter] And she looked the situation over and approved. He showed me Caltech, and he showed me where he lived, in the Athenaeum. Caltech was very different then. Everything was very much smaller than it is now. It was summer, and fortunately there weren’t many people around. I did meet the secretary of the [chemistry] division, who was Bea [Beatrice] Wulf. And under the oak tree that was saved... You see, there was a parking lot on Wilson and San Pasqual before they built up [that part of the campus], and you walked into Crellin [Gates and Crellin Laboratories of Chemistry] from there, and there was this big oak tree, which is still there. And she had her lunch under this oak tree. And the parking lot had wonderful wildflowers.

COHEN: Did you think California was beautiful when you came?

HUGHES: Well, it was certainly different. Yes, it was hot, but it was lovely. You know, it was not moist heat, which is very different from the East. Then we went up the coast, to Santa Barbara which I thought was absolutely delightful, and he took me to the Bay Area, where he also had very good friends, and we stayed with them. And then I took the train back to Boston.

COHEN: By this time, you were very good friends with Eddie.

HUGHES: We really had a wonderful time together. We just fit.

COHEN: When did you get married?

HUGHES: The following year, in England. Well, I was going to finish my bachelor's degree—I wasn't going to go to school forever—and Eddie was going to an international crystallographic meeting they have every three years, which was in Stockholm. And he had a sabbatical at Leeds in England. After I finished, I got myself back to England, and we were married in Leicester on the last day of October 1951, which is Halloween—because November is an unlucky month; I wouldn't be married in November. [Laughter] The ceremony was in the mayor's office, and after he was through he said he didn't know if it was valid in America. Then Eddie told him that he had consulted an ambassador in London about it and he said, "Look, I married an Englishwoman here, and it's lasted up to now." [Laughter]

But we hadn't had very much chance to advise anybody of this wonderful event, so we had to send out cards. Eddie took off a couple of weeks or so and then he came back to Leeds with a wife. [Laughter] That was very dramatic. But he helped me get my first introduction to academic life. I'd met already some of the outstanding people of crystallography, who were friends or colleagues of Eddie's.

COHEN: So you were married.

HUGHES: We were married, and we had a car, which was a great attraction, because it was so soon after the war and there were not many cars on the road. We had an export car, which meant it was a left-hand drive—so I was sitting on the right, where the driver usually sits in England. And while we were traveling through England, people would stare at us. Eddie was very good at not making mistakes, but do you know the roundabouts in England? They're terrible. We were in Stratford-on-Avon and came to a roundabout and there was absolutely nobody there except a policeman in the middle. And Eddie made a wrong turn. And the policeman's whistle that he had in his mouth—his mouth fell open and the whistle fell out. [Laughter]

We went all the way to Lands End, in Cornwall. It was really wonderful. The weather was terrible, but that didn't matter; it was all very romantic and very interesting. And when we came back to Leeds, every weekend we would take out somebody else. We were always very much in demand, because we liked to go out and we would give people rides—for all the hospitality we received. It was a wonderful way for us to spend time. I have seen more of England and Scotland than I ever will again, because that was every weekend. And there was also so much less traffic. Leeds itself is not all that interesting, but York, which is nearby, is an old historic city. A museum keeper at York Castle got so pally with me, he would hand me the keys and say, "You take them." [Laughter] Oh, it was great!

We met a lot of people in England who were of interest to Eddie. My other introduction to crystallographers, or other scientists, was through the movies Eddie took. In England we were known not only for taking people around to all the places we wanted to see but it was the standard procedure that Eddie would take movies, not indoors but outdoors. Later, when we were first invited to a dinner in the Athenaeum by the Paulings to be introduced as new faculty, the reason was that Eddie was supposed to show the movies he had taken in England. And I'm sure they all came away with the idea that England was full of ruins. [Laughter] Because we went to all the places, you know, that were important to history. In fact, Eddie had a great interest in the Romans in England, so every Roman brick had to be identified. [Laughter]

So that was one good introduction to the other side of scientists, because we stayed very often in the homes of the people we visited. It was still a wartime thing that, you know, you put people up—never mind what kind of accommodations you had. And in Dorothy Hodgkin's house, the children absolutely loved having visitors, because they could take up their morning

cup of tea and see them all in bed, which was funny. And they also got orange juice for breakfast when there were visitors. [Laughter]

Of course, Eddie had to meet my family. Part of my family are Wesleyans—chapel people, really. Eddie's middle name is Wesley—which was just a coincidence, actually. So they had noticed this name on the wedding announcement, and when we visited we were expected to go to church or to chapel with them. They were very disappointed.

Eddie had to go to London, to the Royal Society, because Pauling couldn't come then—this was in early 1952. The Coreys came—Bob Corey [Robert Brainard Corey, professor of structural chemistry, emeritus, d. 1971] and his wife. Eddie had been asked to present the work that Pauling was supposed to present at the Royal Society, but he felt that Corey would be much the better person to talk about certain aspects; Corey had done most of the work with Linus and he really knew the ins and outs of everything. So I met them. I was taken to the Royal Society reception under the tutelage of Kathleen Lonsdale [X-ray crystallographer, University College London, d. 1971], who was a member of the Royal Society and a vegetarian. Her father was an alcoholic, so she didn't touch any liquor. Her way of going to a reception was to put a cherry in a glass and ask for some weak tea—that was one of her quirks.

Then we met the Paulings. And that was the only time that Eddie washed the car. Pauling finally got a visa to go to France to a meeting, but they stopped over in England and had a few hours layover.

COHEN: This was the first time you met?

HUGHES: That's the first time I met them. And Mrs. [Ava Helen] Pauling had on a polka dot dress—blue with white polka dots. We went right up to the airplane, and here she came down the steps. And I could have a good look at her and she a good look at me. [Laughter] And Pauling comes bouncing down—you know, he was very jolly, and very nice. And we took them straight from the airport—we were supposed to go to the Lonsdales, who lived nearby, to have tea or something. But first we went to Windsor, because there was some time for sightseeing. Mrs. Pauling and I sat in the back, and she kept saying, “Oh, everything is so small here, so tiny.” [Laughter] She had been in England before—but it's true, when you come back from here, everything looks small.

COHEN: That's because everything here is so big.

HUGHES: Yes, much more generous; the landscape is so big. We just ran into Windsor and out, then had tea with Kathleen, and then ferried them back to Heathrow Airport. With the Coreys, we spent a little more time.

But my introduction into academic protocol came straight from Mrs. Cox, in Leeds. Eddie had met Gordon Cox [Sir Ernest Gordon Cox, d. 1996] when they first started the International Union of Crystallography, in '48. His wife's name was Lucie. Her information was this: She took me aside and she said, "Look, I went to kindergarten with my husband, and all through school. And I know he isn't all that important." [Laughter] Then she informed me, "You always have to find out what people like to eat," and she had discovered that Eddie was very fond of a certain kind of cookie that she made. So, she gave me good advice and we turned out to be very good friends.

After we finished traveling around England, we were thinking about the way home. And that was going to be a really interesting trip, because I was going to visit an uncle who lived in Sweden. It turned out that he and his brother—these are my father's brothers—the younger uncle lived in Chile, actually, but had come to Europe for some reason. And both uncles and my aunt from Sweden met in Switzerland. So we met the whole bunch in Switzerland.

COHEN: Eddie was meeting your family for the first time?

HUGHES: That was when he met this part of the family. He had met my sister and my brother-in-law in New York. In Switzerland, we also met some people who had been at Caltech. That was Laszlo and Elizabeth Zechmeister. He was a Hungarian who had gotten his degree from the ETH [Eidgenössische Technische Hochschule] in Zurich and had been married to a Hungarian woman who died while he was at Caltech. He had a Swiss graduate student, Fritz Sulzer, who worked in organic chemistry. Fritz, who was a friend of Eddie's, developed active tuberculosis while he was here, and Zechmeister, who was very concerned about this young man, went back to Switzerland to tell Fritz's mother that what Fritz needed was not the treatment of tuberculosis; Fritz needed his family to come over, and he would certainly recover—because Fritz was now giving up on getting better. So that's how Laszlo Zechmeister met Mrs. Sulzer's daughter,

Elizabeth, because she and her mother both came out here. They stayed in Monrovia, or somewhere in a hotel nearby, and they were up at La Viña, where the sanitarium was. Of course, Eddie went there to visit, too. One day Elizabeth Sulzer turned up with a great big ring, and everybody said, “Oh, she must have got engaged to that young guy there.” But she wasn’t engaged to Eddie. She got married to Laszlo Zechmeister, who was about the same age as her mother. All this happened the year before I came out here. So that’s how I met people from Caltech, even before I came here.

Then we went to see my brother in South Africa. I hadn’t seen him for seven or eight years. He had married and he had a little girl by then. And that was interesting, because we went on the Comet, which was quite new then. It was a long-distance flight, but they couldn’t fly very far. And those planes were seriously flawed, you know, and were grounded eventually. The flight took quite a while. We had to get out in Beirut, for instance, for the plane to be serviced. That’s as near as I ever came to Asia. We finally arrived in Johannesburg and stayed in a hotel, of course, because my brother and his wife couldn’t put us up; and we wouldn’t have expected them to, anyway.

I had a phone call while Eddie happened to be out, from someone in government, who asked what we were doing in South Africa—was it a business visit or a professional visit or a private visit. And I said it was a private visit. “What occupation is your husband?” And I said, “An X-ray crystallographer.” And that floored them. [Laughter] They hung up. This was the police, just inquiring to see who you are. On our way down, we stopped at Victoria Falls to see that, which was very nice.

And then from there we flew to Brazil, to visit my oldest school friend, whom I had met in first grade. She had married very young, and she and her husband went to Brazil. Her husband was killed in an airplane crash in 1951, the year I was married. She came to Rio and booked the hotel for us, so that we could have some kind of visit with her. Then, from Rio—which, of course, is a marvelous place—we went to Peru, and we went up to Machu Picchu.

COHEN: This was your honeymoon!

HUGHES: This was my honeymoon. And that part was really awful, because Eddie’s constitution was such that he couldn’t really go above 10,000 feet. He was height sick. It was

all right in the airplane, because that was pressurized. But in Peru, when they flew up from sea level in Lima to Cuzco—god, was he sick! And I knew already that, as a woman, what you do is you burst into tears and suddenly all the doors open and everything is better. [Laughter] That I learned because when we left South Africa, my toilet case didn't come with us—it was still the time when they rang you up and said, “Oh, don't come now, because there is no plane,” or “Come in three hours,” and so forth—and somehow it had got lost in the airport. And so we had to retrieve it in the customs office. [Tape ends]

Begin Tape 1, Side 2

HUGHES: We had to go and get the little case from the customs people. And my Rio friend said “I'm not very good at bribing people, because it's always a man's job to do that.” But she said maybe we wouldn't have to, if I cried. And we didn't. [Laughter] I had known in Rio that we were going to go up that high, so I tried to get some medicine there. When we got into the hotel [in Cuzco], I knew that we needed something. Eddie had a really hard time. But we wanted to go to Machu Picchu, and to Machu Picchu we went. It was a wonderful place—very isolated still.

Then we got to Panama, our next stop. We were held up there for two days. So we went up to see the Panama Canal. And we finally got to the States and into the Athenaeum. Eddie had his old rooms reserved for us, which are now offices on the mezzanine.

COHEN: Where the accounting and the caterers are? I was there only yesterday.

HUGHES: Actually it was the corner suite, which had a long hallway and a bathroom. And it had a huge walk-in closet. And Eddie had a little refrigerator in there and a little coffee machine.

COHEN: What year would this be?

HUGHES: September 1952.

COHEN: And was the Athenaeum still very much a private club?

HUGHES: Oh, it was very much a private club, and it was completely quiet. Where the other offices are, where you were yesterday, that's where the houseboys lived—the Filipino boys—across from us. And it was very secluded.

COHEN: How long did you stay there?

HUGHES: Well, we arrived in September, and we moved in here [1582 Rose Villa, Pasadena] after Christmas, because the people who owned this house had a son in the services who was coming home for Christmas. They had already built a new house up in Hastings Ranch, because they had a horse and they wanted the horse nearby. I had been delegated to find a house within walking distance of the campus, because if you are at the Athenaeum you're used to walking to work—and of course we ended up with two cars and a bicycle, but that's typical. And, you know, when I first arrived we had all the help we could possibly get. Mrs. Corey was very anxious to take me along and show me places—where to live. We were interested in something in San Marino, because that was within walking distance, just down the hill. So we got a real estate agent to show that to us, and he said to me, "I have another house nearer Caltech. I haven't seen it yet. Shall we go and look at it?" Eddie and I had already seen that there was sometimes a For Sale sign out in front of that house and sometimes not. We got there and this woman looked out of the window and said, "Who are you?" And he explained that he was a real estate agent. She looked at me and said, "How many children do you have?" I said, "I've just married." She said, "Oh, it's too large for you." [Laughter] But she agreed to take us through. The living room was full of those dark draperies, so it was very dark. And she was so reluctant to open the door—although it was very neat and tidy. But she said, "Well, this is the dining room, this is the this, and this is the that," and we were out of there before I was through. So when I got back home, I said, "Look, the house is really quite nice, but it's too large for us." [Laughter] Eddie said, "Why?" Then we figured out that there was a study and two bedrooms, and we did want a guest room. So it wasn't too large. But we had to really talk to her before she would let us have it.

COHEN: What was their name?

HUGHES: Richter. They had lived here for a good long time.

COHEN: Not any relation to Charles Richter?

HUGHES: No, Mr. Richter was in charge of the hardware department at Sears. Everything in the house was from Sears, except the stove. They left certain things—they left the kitchen table and they left two beds. Eddie had to teach, of course—this was after school had started. We had all the books, all the records, but Eddie's belongings were stored in Pennsylvania.

COHEN: Now, where did Eddie first teach? I mean, where would the chemistry have been—in the old Crellin building?

HUGHES: Gates and Crellin. One classroom was in Crellin basement and another was over in Gates—in the library perhaps. He was with the crystallography group. He was in a room that has since been made into offices. [Tape ends]

RUTH J. HUGHES

SESSION 2

January 13, 1999

Begin Tape 2, Side 1

COHEN: We have you ensconced in your new house in Pasadena.

HUGHES: I haven't mentioned the Women's Club to you?

COHEN: No.

HUGHES: I thought I should mention the first Women's Club meeting, because that was very interesting.

COHEN: When would that have been?

HUGHES: I had been here perhaps two weeks. And in the Athenaeum...

COHEN: That's in 1952?

HUGHES: 1952, in September, so it was the first Women's Club meeting of the year. And it was on a Wednesday afternoon. That was the senior lot, you know.

COHEN: That's right. It was in two parts then.

HUGHES: Then there was, a week later, the evening meeting for the younger people, who couldn't get away during the day. Well, in the Athenaeum were two other couples who had arrived, perhaps a little time before. One was Belgian, the other was French—or Swiss French, as it turned out. So we said, "Oh, there's a Women's Club. We should go to it." So we went and we sat on the staircase—you know we were in the rooms upstairs, and we had to go downstairs. We wanted to see who was coming, and we didn't know just what you do. You see,

I still had only my travel things with me—I didn't have any really dress-up clothes. So we sat on the curve of the main staircase and looked down and we saw all these behatted and begloved people go in. So we decided we wouldn't join that group, because we didn't have the right attire. [Laughter]

COHEN: Now, nobody had told you that the Women's Club was going to meet or anything. It's just that you saw it?

HUGHES: Oh, no. We were supposed to come. I don't remember how we were notified, but it was a very casual kind of thing. It was through the divisions, usually, and you see, the others were new, but Eddie had been in chemistry for so many years. So naturally, as the new wife, I was contacted by Mrs. Corey, whom I had already met in England. And she expected me to attend, but I just didn't. Well, I didn't think I had a date with her. But then, when the junior lot came, we went. And that would have been the next week, in the evening. And that was different. That was an introduction to Caltech, to academic life. Some of the young wives were married to graduate students. Mrs. DuBridge [wife of Lee DuBridge, Caltech's president 1946-1968] welcomed us; she made a little speech. She said, "Well, many of you are newly married, and therefore you might need to have some pointers about what to do with your husband." [Laughter] Which sounded really quaint, when you look back on it. And she had some faculty wives talk about different things—how to become acquainted with the institute, what you might do as a wife to make it easier for your husband to be productive. I do remember, too, that when we came in, we were told to form little groups, and they had us turn our chairs so that we would face each other.

The Women's Club was not the favorite thing of Mrs. Pauling, but the Paulings had an enormous influence on what Eddie did and I did. Mrs. Pauling gave me the once-over and decided, well, that was OK, she would handle me, too. [Laughter] I must say, I was quite fond of her, because I could see what a predicament this woman was in. Because she was one of the first of the new women's movement, and she had competed with her husband from the word go. It was through her that immediately I was put in the position that since you are in chemistry, since your husband is the one to welcome new people, you will take care of them, too.

COHEN: You were given your marching orders?

HUGHES: I was given my instructions of what to do as a faculty wife, straight from the horse's mouth. And Mrs. Pauling did quite a good job at that.

But the first Women's Club is important—which is where I met the Humblets [Jean E. and Pauline]. He was a research fellow in physics, part of the Kellogg group [W. K. Kellogg Radiation Laboratory]. They stayed the whole year in the Athenaeum, so we really got to know each other quite well. We have been friends for all this long, long time. They have been back again—for three months in winter—for the last ten years, ever since Jean retired. And this is probably the last time he will be here.

Anyway, when we came out from this talk about what to do with your husband, Pauline Humblet turned to me and said, "I have known my husband for ten years, and nobody has to tell me what to do with my husband." [Laughter] And I thought, "Oh, boy, ten years!" That sounded like an awfully long time to me.

I was immediately absorbed and introduced to the older group of people, and they all had their little place in the universe. In those days, you knew almost everybody who was anybody. One of my duties was to usher new people into the Women's Club—which I thought was fascinating, because such a thing did not exist in Europe. And the lines were drawn—you know, this is a social group and you do not talk about anything except educational or edifying subjects. It is a place where you meet people and make friends. In those days, the husband was *it*, because there were not many professional women, and those who were would never come to the Women's Club, because they were much too busy being professionals. But the younger group was perhaps the more enterprising one, insofar as they really were helpful to each other.

But since we had moved into this house with only the equipment that a bachelor has, and Eddie's family had stored what he had from his own family—like a grandfather clock, heirloom kinds of things, whole sets of dishes—my orders were to go out and buy the necessary stuff, because we had houseguests almost from the beginning. One of the first guests was his former professor, Professor [Carlton C.] Murdock, who had retired as dean of sciences from Cornell the year before. He came, and his wife took me up to the Pottery Barn on Walnut—it's still there—to buy a set of dishes. We had already some furniture for the living room and for the dining room, and we had two beds we bought from the people who had lived there—those were the

guest room beds. And then there was nothing. Mrs. Murdock helped us greatly—such as to buy a desk, after I found the six-foot-tall professor sitting crossed-legged on the floor balancing a typewriter on his suitcase. She was the one who helped me to get something going here.

COHEN: Did Mrs. Pauling help you with any of these mundane sorts of thing—like getting your house settled?

HUGHES: Oh, no, she usually wouldn't do that sort of thing. But she would whenever her husband had somebody come, and Eddie would be off to the airport or the train station or whatever to get them. And if they were not quite as important to her—you know, say, the children of friends—they would be unloaded here. The Paulings traveled a great deal; they were often gone. But in Eddie's life, the Paulings had a very special place; he really was the most loyal person you could imagine. But he did draw the line on things that weren't scientific. Pauling [also] had [J. Holmes] Sturdivant, who was a bachelor and who had to give up crystallography mostly, because he ran the department for Pauling.

COHEN: Sturdivant ran the department just as the executive officer does now?

HUGHES: Oh, yes, because Pauling really made a point of not involving the institute in his nonacademic things. He would not use the institute name for anything like that. But he was always very good at assessing what people could do for him. [About me] he thought, "Oh, well, she can spell, so maybe she could do something for me." [Laughter]

COHEN: I see. So you were part of his entourage.

HUGHES: Yes, I became the one to collect all the reprints in chemistry. But he was also very naïve in picking some of the public relations people. I mean, the press was after him like anything. And the institute's board of trustees looked upon Pauling as the black sheep of the bunch.

COHEN: Was it right after you came that he asked you to start doing this work?

HUGHES: Well, I don't know that it was right away. I had first thought I might go to USC [University of Southern California] and get myself a master's. And then I thought, No, I can't drive yet. I had to learn to drive. And the minute I had my driver's license, Eddie gave me the key to the car and said, "Here, you do it." That was when the Braggs came. That was '53.

COHEN: The Braggs?

HUGHES: Yes, Sir [William] Lawrence Bragg and Lady [Alice] Bragg.

COHEN: Now, Eddie had already been involved with Bragg at Cornell?

HUGHES: Yes, he worked as an assistant with Sir Lawrence at Cornell, and as technical editor on his book [W. L. Bragg, *Atomic Structure of Minerals* (Ithaca, N. Y.: Cornell University Press, 1937)]. The Braggs were going around the world, I think—or were they just going to see the Grand Canyon? They came from the East by train, and he had stopped at the Grand Canyon to show Lady Bragg the Grand Canyon.

COHEN: So you were told—since you were now the chauffeur—to go get them at the station?

HUGHES: No, I didn't have to do that. Eddie went to go get them. They came off the train and hadn't had breakfast, because the train was late and the dining car had closed down. They arrived, and he introduced me and he said, "You have to feed them breakfast." So I got busy. [Laughter] You know, I really learned from the ground up. I hadn't cooked much before. During wartime I did very little cooking; of course, we never had any food anyway—what was there to cook?

So that was the Braggs. They came for one of these conferences that Pauling had set up. And they were staying at the Athenaeum actually, but the Athenaeum wouldn't serve breakfast—not that late in the day. And in those days, you didn't have very much of a breakfast—it was not as elegant as it is now. But that was fine. That was my introduction to them. You know, he was quite a good watercolorist and he brought some of his pictures of the Grand Canyon to show us. He put them alongside the sofa that we had. And I said, "Oh, Sir Lawrence, those are wonderful.

I would love to have one.” And he said, “No, no, no. You can’t have those—they’re for my wife. But I’ll paint your house for you.” And he sat outside and painted the house.

COHEN: And do you still have this picture?

HUGHES: It’s over my fireplace. I had to drive Lady Bragg, and I had to take care of Lady Bragg. The funny part was that they had been traveling and they needed to do some laundry. Sir Lawrence had messed up his only jacket—a white or light-colored jacket. There was a stain on it. And I said, “Oh, dear.” Eddie was very good at knowing what to do with things like that. So I took it home and we operated on this stain, and of course it caused a hole. There was a wonderful housekeeper at the Athenaeum—Mrs. Applebee, who was British. And of course she was delighted to have somebody around like Sir Lawrence and Lady Bragg. She was a very good needlewoman and she mended his jacket. [Laughter]

So that was my introduction to the Braggs—they were really awfully nice and kind people. This was then a full life already, just taking care of visitors. Then through the Women’s Club—since I had a dual set of china when our china finally came—I passed on one set of china to the next people who came in chemistry.

COHEN: Was that something *you* did, or was that an established procedure already?

HUGHES: All the divisions did that. If you had new people, you loaned them bedding, you loaned them stuff. And, as I gathered later on, there was already something called the Service League, which was not mentioned in the Women’s Club—because, for one thing, the Service League was a town-and-gown affair, people who were more interested perhaps in the students.

The Pauling group was pretty colorful and pretty active—all kinds of wonderful people. And many who were not quite as wonderful, but who had to be taken care of anyway.

[Laughter] Mrs. Pauling had this wonderful way. She gave very good parties, but she always had a whole retinue of people that she commandeered—“You do this, and you do that.” It worked, up to a point. I am probably more inclined to social service than anything else, so this was my great interest. And I thought the Service League was run by old fuddy-duddies who

meant well but didn't really quite measure up, because all they were concerned about was parties.

COHEN: Well, cookies for the students.

HUGHES: Cookies for the students, and chaperoning parties where there were girls present. And I had access to quite a lot of stuff. I don't know how [my involvement with the garage] came about, but after the first year already, when people left after their year here and said, "Look, I don't need this anymore"—here it came, into our garage. And I was interested in newcomers. You know, most came from Europe and had gone through the war, whereas here the young people had gone through a different kind of war. And it was one of the things that I found not only very rewarding but also quite challenging, because the newcomers were a different brand of people.

COHEN: Were many of the newcomers from Europe?

HUGHES: Well, they were usually the postdocs. There was a bunch of them. And there were some Chinese, there were some Japanese. It was later in the late fifties, that the Chinese and Japanese came.

COHEN: So in the early fifties they were mainly European?

HUGHES: More European.

COHEN: And they were married and they came with wives?

HUGHES: They came with wives. The first Orientals who came couldn't afford to bring their wives. It was through the many connections with Pauling, of course, that we had many visitors. And it was very difficult for them to find housing.

COHEN: Well, after the war there was no housing.

HUGHES: Yes, there was nothing. But Caltech had rented some housing for the GI Bill people. And there was already the tradition that young married couples could exchange things or borrow things.

COHEN: And this stuff was all in your garage?

HUGHES: Well, it was mostly kitchen stuff. But it was a burgeoning situation; people began coming over from the biology division and saying, “Couldn’t we be chemistry?” You had to be pretty careful about whom you helped, because you never knew how things would come back, if at all.

COHEN: Did anybody help you? Or were you doing this by yourself?

HUGHES: Well, no, I didn’t do this by myself. First of all, those that I helped I would expect to help me for the next one. And I was glad to hear, when I attended a recent Fall Gathering of the Women’s Club, that the president—I’ve already forgotten who she was—said that when she came she was invited by some faculty wife or Women’s Club member to lunch, to introduce her to Caltech, and she wanted to pay for it, and the hostess said, “No, you may do that for the next one.”

I would like to stress that the Women’s Club did have a great part to play. It went to pot, of course, when the women’s movement hit Caltech, in the sixties. The Women’s Club has quite an interesting history—which didn’t come out in the interviews that Laura Marcus [wife of Rudolph A. Marcus, Arthur Amos Noyes Professor of Chemistry] did on the presidents of the Women’s Club.

COHEN: Now, by the sixties, was all this stuff still in your garage?

HUGHES: Well, by then I had persuaded them to get me a garage on Wilson and California, in an apartment house: it had four apartments and five garages and usually there was faculty in one of them—and I knew the place anyway.

COHEN: OK. I want to go back to your work with Pauling.

HUGHES: Well, when I was first employed, I was on the payroll at Caltech, you see, for two hours at a time. And I did this [collecting of reprints for Pauling] early in the morning, because Eddie never got up early. He wanted his classes always at eleven [o'clock] or so, so that he could stay in bed. [Laughter] Because he used to work at night. He would stay up all night in his bachelor days, but when they started working on computers he would stay up all night, too, because the time he could get on computers was very often night time. And I could go to work when I wanted to, because [my hours were] up to me. I figured out that it would be easiest if I worked from eight to ten, then rushed home and got him out of bed and got him breakfast. [Laughter] Well, anyway, it worked out. And then, after a while, I suddenly found myself doing personal correspondence for Pauling—stuff that he didn't want to write. I don't know why.

COHEN: So in some sense you were acting as his secretary.

HUGHES: He came around with his little tape recorder and dropped it off here. He would start bringing me work on Saturday afternoon, and he would say, "Well, of course it's Saturday afternoon, but I do need this by Monday morning." So it became more complicated. And I had to get notepaper with his name on it, you know, and all that stuff.

COHEN: How did you get paid, if you weren't working for Caltech but you were working for Pauling?

HUGHES: When I was working for him, *he* had to pay me. The executive secretary in chemistry for years was Bea Wulf—Oliver Wulf's wife [Oliver Reynolds Wulf, senior research associate in chemistry, emeritus, d. 1987]. And she said immediately that if Pauling went off outside of chemistry, she would have nothing to do with it. So he had to employ other people, but he had to pay them with his own money.

COHEN: You collected your hours and he just paid you?

HUGHES: And I sent in a bill every so often, yes. Pauling was not a very good employer, because he would never remember—you would have to sort of remind him that you had to be paid.

But at first I did the reprints. The older reprints were hard to get. It was interesting; you had to write all sorts of people, and it got me interested in library work.

COHEN: Now these were reprints not just from Caltech, but from...?

HUGHES: No, from chemistry at Caltech. And we ended up by inviting the authors of the first two papers on crystallography that were published in America. One of them, [C. L.] Burdick, had been at Caltech. I got this, really, out of Eddie's [interview]. Then we had a celebration of the first publication of the first crystallographic paper in America. [That was Burdick's, and he] was a Caltech man, and he was still alive, and he came to that.

COHEN: This would have been in the middle fifties, then?

HUGHES: Yes. That was also the first time that Dorothy Hodgkin, who had just published the vitamin B-12 paper, came here [from Oxford], and her husband joined her here, [from Africa]. I didn't know what hit me when I first met Tom [Thomas L.] Hodgkin [an authority on the history of Africa], who was one of the most interesting people I have ever known.

COHEN: And so they stayed here in the house with you?

HUGHES: Oh, yes, they stayed in the house. And they stayed again when Thomas was quite ill, but that's a different story. We can't even begin to talk about that; I'm still on Pauling and what we did. Because then Pauling decided to make an appeal against atomic testing.

COHEN: Now, was that something that his wife urged him to do, or did he come to it by himself?

HUGHES: He came to it himself. He documented it at a meeting in St. Louis. There was a chemist there, and they were discussing [nuclear testing], and he said, Yes, he would do

something about it, because he thought it was his duty. When he wrote his book [*No More War* (New York: Dodd, Mead, 1958)], he supported it with a [petition to the United Nations, for which he collected] thousands of signatures. And that was where he immediately cut off: [none of this] was done at Caltech; it was done from his house. The notepaper I used [to send out the petition] had his home address on it.

COHEN: You said that your doing this work was against Eddie's wish?

HUGHES: Yes, he didn't like it at all.

COHEN: Why do you think he didn't like it? Did he think it took Pauling away from the science?

HUGHES: He felt that [Pauling] was falling between the cracks now—because Pauling had become a political figure and was very ill-treated by the press.

COHEN: Oh, so Eddie didn't like it because of what it was doing to Pauling?

HUGHES: What it was doing to Pauling. He said it took Pauling away from what he could do best, which was his chemistry. And Eddie was perfectly right, because Pauling was very naïve in political matters. For example, he got into trouble over simple things, like the Hollywood Community Radio, where he had given a talk. It was reported as the Hollywood Communist Radio. And not retracted. You know, this kind of thing. Pauling was not political, he was naïve. And that's where Mrs. Pauling came in, because she just gloried in this kind of thing. That was then her mission.

COHEN: She was very active in the Women's International League for Peace and Freedom.

HUGHES: Yes. And she said to me once, "I know Eddie wouldn't sign anything. He's against the word 'international'." And I thought, "You don't know, Mrs. Pauling, what he's against or for." [Laughter] Because Eddie really thought Mrs. Pauling was absolutely it. She was the

perfect hostess and she recognized Eddie's loyalty to her husband. This was Eddie's philosophy of life—that you help other people. And she was getting the best out of Eddie as well as her husband.

COHEN: So she had everybody in her circle doing what she wanted them to do.

HUGHES: Yes. But it backfired on her children, because they certainly did not do what she expected or wanted them to do. But again, she wasn't around to bring them up. She was always with Pauling—she wouldn't let him out of her sight. She traveled with him all the time, and he traveled a lot. And he had been very ill. He nearly died, he really did, and after that she nursed him back.

COHEN: Did she have a housekeeper? They had four children?

HUGHES: Four children. No housekeeper. I always thought it was her background that didn't help her, because what comes naturally to you and me—for example, that when you receive help or gifts you say “thank you” in some form, but I don't think she ever wrote a thank-you note to anyone.

COHEN: She of course knew him from Oregon [Oregon Agricultural College, now Oregon State University, Corvallis].

HUGHES: Oh, he was an instructor, and she was a senior, or had just started college. It was a college romance. And he asked her for a date after his first lecture.

COHEN: This was not a full-time job that you had with him?

HUGHES: No, this was not a full-time job. It was at the time when Linda [the Paulings' daughter, wife of W. Barclay Kamb, Barbara and Stanley R. Rawn, Jr., Professor of Geophysics and Geology] had the twins. And that was another thing—you know, your only daughter has

twins. You would think that Mrs. Pauling would have been involved in that, but she was simply an absentee grandmother. I mean, that was it—that was not her job, not her line at all.

COHEN: So you were working on this business with Pauling, and this was a job that was done out of his home, and had nothing to do with Caltech?

HUGHES: Absolutely not—that petition involved lots of correspondence, and he was very careful what he did in that respect. The petition had to have all the scientists' signatures; it went all over the world and into many different languages. So he first had to have somebody to translate it, check out the people who signed—Were they really scientists?—and have the thing retranslated into English to see if it really meant what he wanted to say. [Tape ends]

Begin Tape 2, Side 2

HUGHES: This enormous effort to get the petition to the United Nations was a pretty expensive thing to do.

COHEN: So that was really a forerunner. You know, now concerned scientists are a long list of people for this and a long list for that. This was one of the first times this was done.

HUGHES: And this was done before you had computers. You had no lists from anybody. I was working on this, and there was competition between me and Barclay Kamb as to who would get the stamps on all these wonderful letters. [Laughter] Anyhow, this must have taken a year or more. And it certainly was not the thing to do while you were still chairman of the chemistry division. He could have taken a leave of absence, perhaps, because essentially he wasn't available, although he gave the freshman lectures each year. He did do some things—but it was a very unhappy time for the chemists.

COHEN: He still was the head of the chemistry division?

HUGHES: Yes. [Pauling was chairman of the Division of Chemistry and Chemical Engineering from 1936 to 1958—ed.]

COHEN: So he was not there, but still he was in charge?

HUGHES: He still was in charge, but it was Holmes Sturdivant who ran the show. After Pauling got the Nobel Prize [in chemistry; 1954], you know, he was very much in demand in other places, and he would forever travel and give lectures and do things. And that's when other people had to run the division. He had always expected his postdocs or whatever—by that time Eddie was a research fellow, he wasn't a postdoc—to at least teach one course. And Eddie was in charge of seminars.

COHEN: I see. So Pauling expected all his other people to do the work...

HUGHES: Because he was traveling and doing so many other things. And this then became a big issue with the board of trustees: "You really have an absentee division chairman here." Eddie did what he could, but it was quite obvious that there was no way to do this, and Pauling finally resigned the chairmanship [1958].

Anyway, before that happened, I worked on this petition, and Eddie was so good to help me, because it was a great big thing. Oh, it was many hours! It seems to me it went all summer, and we mailed [the petition] off in December.

COHEN: This was in 1956?

HUGHES: Well, in '56 we were in Spain. No, it must have been later—it must have been December '57. At that time, too, Mrs. Pauling thought she saw a good thing. That was after [Linda's] twins were born. Mrs. Pauling had me come up and she wanted me to transcribe some of the letters she owed to people.

COHEN: Be her personal secretary?

HUGHES: A personal secretary. And that did not last very long, because I wouldn't do that. She was not the writing type—though she did write many other things. I don't know why, but I always felt sorry for her, because I thought she was aiming for something that couldn't possibly

give her satisfaction. A long time after she died, Pauling wrote to me and said, “You were one of the few people she liked. She didn’t like women, but you were an exception.” [Laughter] So I thought that was very interesting, but I know that in her funny way she probably did.

COHEN: After the petition was finished, did you work again for him? Or was that it?

HUGHES: Well, when Pauling reissued *The Chemical Bond* [third edition, 1960], Eddie was not anxious to help on it, so Pauling gave it to me for proofreading—which was, of course, a mistake, but he knew Eddie would help me.

COHEN: So he got Eddie indirectly.

HUGHES: Well, he always knew when he could interest Eddie, but Eddie would also say no to certain things which he found were not his expertise.

COHEN: So you were involved in the third edition of *The Chemical Bond*. The first edition [1939], of course, was done at Cornell—and that’s where Eddie worked, at the Cornell University Press at that time.

HUGHES: Yes. And I kept one copy of the second edition signed by Pauling, “To Eddie with affection.” I thought that was a very special thing.

COHEN: OK, let’s get back to your work for the Women’s Club.

HUGHES: Well, as I said, from the very start I got involved with the foreign people and with new people. It was interesting to meet people who weren’t Caltech people and to hear what they had to say and how they considered Caltech. My interest in the Orientals started when one of Eddie’s Chinese friends sent a student—a woman called Yuen Leung—for graduate work to this country. She got her degree in Texas, with Jurg Waser, and came here with him in 1957. And of course, we were right away introduced to her and her husband, who was an engineer and was Chinese also. Yuen got pregnant, and she developed cancer at the same time she had the baby.

She died when the baby was ten months old, and that immediately involved us with the Chinese. Well, this was all very sad. Mind you, the Chinese husband organized everything. He married again and had more children. The first one he had was a girl, and she was named after me, because I was part of the family. So I have a leg up into the Chinese world—in fact, I started to learn the language a little bit, because the grandmother came from Taiwan for this baby—and that was very difficult to do at the time. She was really a wonderful person. I took her to the hospital, and she would give me little instructions on what she would have to say—what was good or not good. So I got interested in that and I went to PCC [Pasadena City College] to learn a little bit of Chinese.

I think the Oriental thing became more acute when we had Japanese, because they came en masse. The Chinese were more retiring. We had one Japanese come from Yale. When he got here, he had enough money saved to have his wife come, with a baby that he probably hadn't yet seen. And he needed to be helped. I had to go with him, because I knew what the baby needed, and he couldn't speak English very well. I knew the basement of the Athenaeum pretty well, but I didn't know anything about their baby furniture until I went with him to figure out how to get a crib. And people were still playing billiards down there, you know—part of the room was a billiard room. There was a dead silence—you know, they were all listening to what was going on. And this poor man, he was so embarrassed. This was really very much against their culture—that he should be in charge of getting things for the baby.

COHEN: Now, was there baby furniture down there?

HUGHES: Oh, yes. They stored the old carpets down there that they couldn't use, and rain had leaked in, because the windows were broken. There was a whole mess of stuff.

COHEN: Well, where had the baby furniture come from?

HUGHES: It was a sort of throw-out from the families who had been here with the GI program. There was a lot of stuff.

COHEN: Who organized that originally?

HUGHES: Well, it was like what I was doing in my own home. It was people who lived across from Caltech; those houses were in private ownership. And some of them had connection to Caltech, and they knew that they could give things to people at Caltech, and they would store it there.

COHEN: Who was in charge of that?

HUGHES: I think it was Jean Sharp [wife of Robert Sharp, Robert P. Sharp Professor of Geology, emeritus], who really didn't want to do anything like that, but she did. And I think it was she who approached me and said, "Look, you know more of the people who need baby furniture. Why don't you do it?" And I said, "Oh, I don't mind doing it, but I won't go to your [Service League] board meetings. If you want someone to go to board meetings, I can't be bothered to go to board meetings." I had my hard times with this. Well, people wouldn't think that I owned this stuff, but they thought I was employed to serve it up.

COHEN: So you were working for all of them rather than volunteering?

HUGHES: That's what *they* thought. And there's still a problem with that.

COHEN: So you did that for quite a while.

HUGHES: I did it for far too long.

COHEN: Shall we go back to something else? The Paulings left in the middle sixties.

HUGHES: 1963 or '64. And then [John D.] Roberts came in as division chair. I have great respect for Roberts.

COHEN: He's a nice man, and he got the department going properly.

HUGHES: And he really must have had a very difficult time sorting it out and getting it going, because that hadn't been done for so many years. The division was so splintered. You know, the chem engineers went their own way long before that, and it was just as well. But it was Chem Wives, when I first came—oh, that's another thing: Chem Wives, I'd forgotten about them. [Laughter]

COHEN: The Chem Wives—was that organized already?

HUGHES: Oh, yes. That was Judy Schomaker. Judy Schomaker married Verner Schomaker [at Caltech from 1938 (research fellow) to 1958 (professor of chemistry), d. 1997], who was a most eligible bachelor. She was Pauling's secretary. Or she was someone's secretary. Bea Wulf was the division secretary. Judy Schomaker, before she got married, was Pauling's secretary.

COHEN: What was her maiden name?

HUGHES: Rook. And she felt isolated—you know, they lived way up in Sierra Madre somewhere. And her life had been in Pasadena since she went to school here. So she knew all about Pasadena and knew the people from the town and so forth. Well, she felt isolated there. And then she had these babies. Then she thought, There must be something else; there must be others like myself. She really didn't care much for Women's Club things—that wasn't her thing. Their meetings were in the evening, and she liked to go out in the evening with her husband if she could. But she couldn't; they had no money, as most of them didn't. So she invented the Chem Wives, and she visited me here the first week I lived here. She came in and brought three little boys with her. She looked around and saw I had no furniture, or not much, and she said, "This is a good place for Chem Wives." I said, "What's Chem Wives?" She said, "Well, you'll see." So I was invited to Chem Wives. There were only seven people, but they were all new—and one wasn't even a chem wife.

COHEN: This was when you first came?

HUGHES: That was when I first came, and Judy ran it for a long time. But I took it over from her.

COHEN: And that was just all the people in chemistry, their wives, or the newcomers?

HUGHES: Well, it was supposed to be for the newcomers mainly, and the meetings were supposed to be in different houses, you see. And Mrs. Pauling always had the last meeting, to which we were allowed to invite the husbands. And babies were perhaps welcome—not very much—but no children. Mrs. Pauling didn't like Chem Wives; she didn't think that was quite it.

COHEN: So she didn't like the social...

HUGHES: Well, she liked it if somebody else did it for her, in her need. But she wouldn't like to think that there was a competing group that interested some of the women whom she might have otherwise used in the way she used me. Quite frankly. But this might not be a fair assessment. Anyway, I was left with the organization of it, and I have tried to do this for quite a while, but I found nobody wanted to take it on. So I said, "Forget it."

RUTH J. HUGHES**SESSION 3****January 18, 1999****Begin Tape 3, Side 1**

COHEN: You had some more things you wanted to say about the Paulings.

HUGHES: Well, I was tired last time when we finished. I spoke about Pauling as a very important influence in our lives. But he had a very casual way of inviting people, and they would suddenly appear on the doorstep, from all over the world. So he found it necessary to get this into some shape. And he had an executive secretary, Mrs. Wulf [Beatrice Wulf, wife of Oliver R. Wulf], who was an educated person who had also a very interesting history. Mrs. Wulf was doing a very good job, but she would not do anything that was not to the benefit of the institute or did not have to do with chemistry. So she drew the line, and I was then the one to take up the slack when it came to the social part. Although she, too, invited most everybody who was new, because that was a tradition; when you had a new faculty member, they would be invited—up to a certain level, by Mrs. DuBridg. That was her way of welcoming them. And then from then on, it was up to the division. Mrs. Pauling had her own way of dealing with people, which meant that her husband would ring her up and say, “I’m bringing somebody for dinner.” And that was not always convenient, so I ended up having them here. [Laughter]

COHEN: You mean, if Mrs. Pauling couldn’t take them, she would say, “Get Ruth Hughes”?

HUGHES: Well, you know, it would be sort of indicated. If people came here alone, it was quite all right; they could be put up in the Athenaeum. But if they came with family, they would have to have housing. And although some people had friends who could help out, he decided that Mrs. Wulf would go and help them to get housing. And Mrs. Wulf said, “No thank you. I can’t do that. I have too much else to do.” But the secretary who came after her rang me one day and said, “Somebody’s coming and bringing three children. Will you come with me? We have to find some housing.” I was very surprised. So that was the beginning of an active housing office.

In fact, the Women's Club one summer staffed the housing office. And we had volunteers who would come and drive people around.

COHEN: But it's interesting that it was important to Pauling to see that it was done.

HUGHES: Yes, that's what I want to point out. Because he said, very rightly, "If family comes, that means three weeks I lose not doing science."

COHEN: Ah—so take care of the family so he can get back to work.

HUGHES: Take care of the family, and he can go to work. But he always had great charm. He could really charm you any which way. And get his own way. But I must say, this was his privilege, too. [Laughter]

COHEN: So this would have been in what years?

HUGHES: It must have been in the late fifties or early sixties. You see, by that time, people who came from Europe were penniless. You had to be supported. So you had to have some money. And that was something that Pauling was very good at.

COHEN: Finding money for these visitors?

HUGHES: He would have some money for them because he had traveled himself. He had really a very active interest in people—it just fluctuated. And we had people who abused this kind of privilege. But very often, Mrs. Pauling found she had too many house guests; then she would ring and say, "Could you take so-and-so?" Well, I had interesting times with her. [Laughter] Before that, Eddie was always the one that had a car and could take people around—you know, this was a great asset. But it was different in other divisions. I know that from other people. We were much aware that the chemistry division, whatever its faults, did take care of their people.

And one person I would like to speak about is Sara Neher [wife of Henry Victor Neher, professor of physics, emeritus], who has probably never got any recognition for all the things she

did. She was a good Women's Club member. And she had, of course, resources in other ways. They had been abroad with [Robert A.] Millikan [Caltech's head from 1921 to 1945] and [William H.] Pickering [professor of electrical engineering, emeritus]. And of course Mrs. Pickering was at JPL [Jet Propulsion Laboratory], and JPL [wives were] not necessarily invited to be Women's Club members. When I arrived and met Sara Neher, I was in awe of her, because she was senior, she'd been married a long time, she'd lived here a long time; she had been abroad; she knew a lot of things that I didn't know. And she had her own way of dealing with situations. When we became aware of the need of the foreigners, especially—in comparison to the Americans, who had more flexibility—she was very anxious to make them feel welcome. She was one of the hostesses who would give parties or would invite them and would help with settling—mostly in physics, of course.

I didn't know Mrs. Neher very well. I used to think she was one of the old fuddy-duddies—you know, when you have to put on your best hat when you go visiting, which was true at the beginning. But when I got to know her, I thought, What a woman she is! She went so far as to meet people at the airport. You see, at first, when they all came from Europe they came by train, if they didn't come by car. But the Asiatic people had to come by boat or by plane. And during the Watts riots [1965] Mrs. Neher went down to the airport to collect whoever was coming from Asia. She specialized in Asia, because they had been in India and they had been in Japan, and so forth.

COHEN: So there was no professionally paid person in the Housing Office? They were all volunteers from the Women's Club?

HUGHES: No, there was a Housing Office run by somebody—I don't even remember who it was. But the work was done by members of the club on a volunteer basis. We did go around to people. And I was very much aware that I had a lot more than most people. There were lots of people who really were very hard up. But you see, since I had all these connections with Orientals, I would make it pretty clear that this was now America and things were done differently: If you did get something for free, it meant that you could use it while you were here, but it wasn't yours; you had to return it. And that was a little hard on them. They didn't

understand this, and wouldn't understand. Everything was new, so they thought, Well, this is Caltech and they have so much stuff.

So we started the international group. And I said from the beginning that this means you're putting all the international people into things together. They didn't mix—very few. The ones that never mixed were, of course, the Israelis.

COHEN: They just stayed in their own group?

HUGHES: Well, they had their own troubles—just like Israel now. And then we had some Egyptians. And again, they were perfectly content to do their thing by themselves and could not understand us at all.

COHEN: Well, do you think it could have been a language problem?

HUGHES: Partly it was. But when the Japanese wives came, they all had at least started English. And if not, they would come here, because you could get free lessons at the Y. And that was something absolutely unheard of. So I began to teach at the Y, because so many of the Caltech wives went there.

COHEN: When would that have been?

HUGHES: The early sixties, I think. There were classes—it was connected with PCC, and it was supposed to be the introductory class for English as a second language. There were volunteer teachers; we were assigned in small groups. We would have conversations. We had a textbook of simple English.

COHEN: So you, or other people here at Caltech, sent these visitors' wives over to the Y?

HUGHES: Well, no, that was completely outside Caltech. From that, they finally got somebody to teach English. In chemistry, they had done it for quite some time already, because the students had a language requirement. Eventually, they developed a course where the wives

could join. All this started sort of gradually. And I have now found that the Y at Caltech was quite a special situation. There was a legend in our time by the name of Agostin Turner. He and Mrs. Turner were Quakers, and they had been around the world, spreading the Y discipline. He never learned how to drive a car, but he had a bicycle. He would arrive at Caltech by bicycle. And he would round up all the foreign students—and sometimes postdocs—and take them on trips and outings.

COHEN: He worked for the YMCA. He was not a Caltech employee.

HUGHES: That's right. He finally got a lot of support—mostly from alumni, I think. But you see, Caltech was then small. There was the support of the city people—of the people who lived nearby or the people who got into Caltech projects during the war. It was small, like a family.

COHEN: Well, it became more institutionalized.

HUGHES: It became bigger. I was once secretary of the Women's Club. There were two secretaries: one that took the minutes at the meetings—and I thought that would be for me—and a corresponding secretary, to answer the mail. Our bulletin was just a printed sheet, and we had a very small board. You always asked your friends to come and help you out.

COHEN: So it was a very informal kind of arrangement?

HUGHES: Oh, yes. It started off with these afternoon coffees with a program. And the program had to be high quality, but it could not be about any controversial subjects. It was sort of more—well, it wasn't a cooking class—sometimes they would talk about some Caltech work, but very generally.

COHEN: It was mostly women's subjects?

HUGHES: It was more society subjects. But of course that changed with each year. It almost ran aground. I think that had much to do with when Mrs. Brown [Colene Brown, wife of Harold

Brown, Caltech president 1969-1976] came and decided we weren't doing quite enough for the women. Well, it was also the time we got some liquor into the Athenaeum. [Laughter] The social scene was changing so rapidly. When the Women's Club really went to pot was in 1970, with the feminist movement. Then you suddenly didn't have a surname; you only had a first name. There was one year when they didn't have name tags. I thought that was very interesting.

COHEN: That was on purpose?

HUGHES: Yes. You didn't want to be identified by your husband's name. And that was the year of divorces and the remarriages and the changing of names—or marriages and keeping your own name. And it turned out that our innocent little group of Chem Wives was invaded—at Edith Roberts's home. Jack [John D. Roberts] was probably chairman of chemistry then. Edith must have been to a meeting I did not go to, for some reason. Two of Jack's women students—neither was married; one was a senior and the other was a postdoc—said that they were in chemistry, women in chemistry, and they really didn't see why they weren't invited to our parties. And poor Edith didn't quite know what to say. When I heard about it, I was absolutely... Well, I said, "For goodness sakes, why do they want to come?"

When we got female undergraduates, I met Colene Brown once at Vroman's [bookstore]. What was she doing? She was selecting invitation forms. She was going to invite all the undergraduate women. And that was a complete failure, because the students said, "Why should we be singled out as undergraduates to be invited to the President's house?" That's not what they thought they were doing.

COHEN: So you're saying that the seventies were really very hard on the Women's Club. That wasn't what young women saw as their role.

HUGHES: Yes. They said, What is the good? And you see, the word "service" is never mentioned in the Women's Club—that was an anathema. I was aware of it, of course, before, but I always kept quiet because I thought, Well, this is a very good thing to have. And I was only interested, of course, in the service part, connected with the furniture and the baby furniture.

And I have spent an awful lot of time on that, really, which perhaps was well spent, I don't know. I could have done other things, but that was the opportunity. I was in on this because there was a need for it. And I tried to always dislodge myself when I could, gracefully. When the Paulings left, it was perhaps easier to be more flexible.

COHEN: How did you feel about the Paulings leaving?

HUGHES: Oh, we were not surprised. We knew they would leave. After all, if you wish to run the division, you have to be there for things. And he just wasn't.

COHEN: He just had no interest in doing that?

HUGHES: No, to him chemistry was his hobby, too. It could always be done. But the driving force, we all thought, was his wife.

COHEN: She wanted to do politics?

HUGHES: Yes. But we're all different. And, of course, Eddie had some sort of a career still coming to him. Fortunately, Eddie was quite independent.

COHEN: So what you're saying is that his work was not that dependent on Pauling. He would just continue.

HUGHES: Yes. But Pauling certainly did not leave with very good graces at all. And never came back, really. He was in town sometimes for personal reasons, and he would be asked to parties. Well, he had certainly a legacy here, although the Paulings absolutely took everything they could lay their hands on with them.

COHEN: But they left the house to Linda—they gave the house to Linda. Is that right?

HUGHES: She's living there, yes. No, it's the ranch [at Big Sur] that they are fighting over. So this was a very sad chapter.

We went to visit him at the ranch. Eddie arranged his seventy-fifth birthday party, which was something tremendous.

COHEN: Was that up at the ranch?

HUGHES: Oh, no, at the Athenaeum, with goodness knows who. And Pauling arrived with a retinue of six or seven or eight Chinese people that we didn't know. Typical. Then they had another party after that—they celebrated his eightieth birthday. But, you know, it was sad for those who had known him.

COHEN: Was he off on his vitamin C bit by then?

HUGHES: He gave a talk, which lasted over an hour. The first twenty minutes were fascinating. After that, it was just... So that was sad. But, of course, it gave old friends the opportunity to meet again.

COHEN: Let me ask you something that you may or may not know anything about. There are a lot of things here with Linus Pauling's name on it—the Linus Pauling Lecture Room, Ahmed Zewail has his Linus Pauling Professorship [of Chemical Physics]. Is Pauling's a name that Caltech uses to raise money?

HUGHES: Yes.

COHEN: Is that effective?

HUGHES: I think so—I think it had a certain effect. I mean, he did sort of put Caltech on the map, and in science there's no doubt about his importance. This all came about very belatedly. You know, Verner Schomaker, in Seattle, established this prize. I don't know how he did it—through an organization of crystallographers. And this is still a puzzle to me: Eddie was

supposed to get this prize and he was invited to go up. And he really couldn't. And I said, "For God's sake, why don't you tell him you can't come?" But he didn't go up, and that was taken to mean that he did not accept the prize—so he never got it! I thought that was a little bit short shrift! But Verner was probably not very much in control of these things. [Then there was the incident] with Zewail, when Pauling came here for his eightieth birthday. Mrs. Pauling had died already. One of the sons booked a room in the Athenaeum for Pauling, so that he could stay there overnight, because he couldn't attend a day's meeting and not have a break. And he really couldn't get up to the house. He was going to be paid an honorarium, and the next morning, Zewail's secretary rang up the Athenaeum and said, "Would you please come up and collect your check?" And that's the way things have changed in chemistry.

COHEN: The secretary in chemistry called the Athenaeum to tell Pauling to come and get his check?

HUGHES: Yes.

COHEN: Now how do you know this?

HUGHES: How do I know this? I can't give the name, but it was a reliable source.

COHEN: So you felt that the institute, in these later years, was just using Pauling for the name?

HUGHES: Well, surely. And Linda [Kamb], unfortunately, has never lived down the family's name.

COHEN: Well, I know that Linda has been upset that her father gave all his papers to Oregon. She really wanted the papers here—at least, that's what she has said. I've seen the Pauling Room in Oregon—it's very nice. It's a whole room, with a prize and a lectureship.

HUGHES: But Linda has got a lot of stuff that, you know, I never managed to get—the little bit that I really wanted. But I have given her plenty, because we had a lot of stuff here.

COHEN: Some of the stuff has come to the Archives.

HUGHES: They have the copies of the movies that Eddie took—and Linda has that, too.

COHEN: So, as the Caltech Women's Club changed, you continued to do...?

HUGHES: Well, I did what I wanted to do. And I finally decided that I couldn't do everything. So I said, OK, I will do the service part of the Women's Club, because that's now petering out anyway. And I always had help; we had wonderful times, because we could involve everybody who borrowed something to come help us clean up. Or if they didn't, OK, too. But it was a goodwill thing; it wasn't commercial. I only had to have fees for stuff that had to be cleaned, like bedding, and for the baby furniture I had a budget from the Service League. Things came into the Athenaeum basement, which was a catchall at one time. And since we left there—in fact, years afterward—they called me and asked me would I please come and collect a suitcase with Eddie's name on it. [Laughter]

COHEN: Now the Service League went out of business, or folded, a couple of years ago.

HUGHES: In '87, I'll have you know, or '88.

COHEN: They no longer have that function?

HUGHES: No, they must have kept it. It was Doris Everhart [wife of Thomas E. Everhart, Caltech's president 1987-1997] who made it survive. Because I thought that as soon as it got out of the Athenaeum basement, I'd give up on it. Then it was in one of the small houses across from the Children's Center. Doris Everhart found them the place in the new grad student houses. I moved it over to the basement, and that was the last thing I did, actually. That was in '87.

COHEN: But that's not run by the Service League; that's run by the Women's Club.

HUGHES: Then the Women's Club took it over, because that was the only thing that was worth keeping. It's institute-wide, which it had never been, of course. But if Caltech wants to do it that way, that's fine. It is of course of some service. I made a survey at one time—some years back—to find out who has had anything like that. Berkeley has the International House, and that was the nearest to it.

COHEN: Let's go on. Would you like to make some general observations about your years here?

HUGHES: Well, I was just thinking about—this is very recent—Alice Huang's [wife of David Baltimore, Caltech's president, 1997 to present] effort to get to know the older generation. She invited us to a very elegant lunch at her home.

COHEN: When was this?

HUGHES: A couple of weeks ago—which I thought was a generous, very smart kind of gesture. I don't know, but I think it will probably be known anyway, so I might as well say it. I thought this was very interesting. I looked at this invitation, and I thought, Well, it says it's a special luncheon. And then I sat on my hands and got a phone call from one of my friends, who is bedridden. And she said, "Did you get an invitation to a special luncheon?" And then it dawned on me—this was for widows. And it gave the phone number of the secretary from Public Relations. I called the lady and said that I would like to come. "Oh, yes, yes, we're so pleased," and so forth. But I didn't ask her [what the lunch was for], because I thought I'd see what happened.

When I got there, there was Laurie Koonin [wife of Steven E. Koonin, Caltech provost 1995 to present], and the secretary who had invited us, and yet another person, who identified herself as Lucy—it turned out she was a postdoc in humanities and she had been asked to help Mrs. Baltimore. And she's married and has two or three little boys. I mean, what these guys do is just fantastic. [Laughter] Apart from that, I came fairly late, because I walked over, and it was hot and I was really more tired than I had anticipated. [Tape ends]

Begin Tape 3, Side 2

COHEN: How many people were there?

HUGHES: There were two tables of ten, I believe.

COHEN: This was at the President's House?

HUGHES: Yes, a very gracious luncheon. And she [Alice Huang] said, "There is no agenda here; I just want you to have a chance to meet the widows that are connected with Caltech, who know much more about the place than I ever will." We had little gifts on our plates. And then she said, "Well, I thought perhaps you would like to meet your friends here, and that we could discuss it afterward, or you could perhaps make suggestions to Laurie or myself while you're here. And there's a little pin that I hope you will wear." [Laughter]

COHEN: This little key, which is about three-quarters of an inch long—very nice.

HUGHES: Yes. Well, really it made you feel welcome.

COHEN: I think that's a wonderful story.

HUGHES: And, of course, I saw some people I never see otherwise. Well, you know, I have a timetable, too. We were asked for twelve, and by ten to two, I said, "Well, I better get home, because I have to walk." [Laughter] So I was the first to leave. And I went over and thanked Alice for her charming way of meeting us. And she said, "Yes, and you will wear the pin." And then it occurred to me—this is for her, because when we wear the pin to any function where she is, she'll know that we are widows.

COHEN: But she wanted you to feel welcome, too. Because a key makes you feel welcome.

HUGHES: Well, I thought, to be greeted with a gift—it's so personalized.

COHEN: This is a wonderful story. A new story—I mean, this isn't even history.

HUGHES: This is a new story. Well, you see, I'm at the harvest time. Since I can't do anything much now, I can just sit back and let things happen. And that's what I would like to say about Caltech. I've given it a good deal of my time and energy and attention. And I get back twice that much. [Laughter]