

This the first in a series of oral history interviews with Dr. Ruth Lillian Kirschstein, the Deputy Director of the National Institutes of Health, on 21 September 1998, in her office in Building 1 at the National Institutes of Health.

Interviewers: Dr. Victoria Harden and Dr. Caroline Hannaway

Please Note: These interviews have not been verified for complete accuracy

Harden: Dr. Kirschstein, we like to begin our oral histories by exploring the family background of high-achieving people, and I can see that your father, Julius, was born in Russia. Could you tell us something about his family, his parents and his siblings? How and when did they come to the United States?

Kirschstein: My father came to the United States when he was seven or eight years old. He was born in 1890. He came with about four siblings, and three or four more were born here, although not all lived. We have no idea of the name of the family originally. You may remember that in those days, the most recent immigrants very often manned the immigration desk, and so the people behind the immigration desk were Germans. When they asked my grandfather his name, he said something that obviously started with a ðkô sound, and the Germans interpreted it as Kirschstein, which is cherrystone. That is how the name occurred. I have no idea, nor did my father, what the family name was originally.

Harden: Do you know where in Russia they came from?

Kirschstein: Probably in the border area near Vilna [Vilnius?], on the borders of Poland and Russia [and Lithuania?]. But the border and the village names did not always stay the same.

Harden: What did the family do? Do you have any sense of that?

Kirschstein: I do not really know. First of all, I should say that I knew none of my

grandparents. Unfortunately, both sets had died before I was old enough to know them. One of them had lived until I was a year old, but I have no recollection of that at all. When my grandfather settled on the Lower East Side in New York, he went into the business of bottling sodas, seltzer water, and so forth. He must have been involved a little in some sort of glass bottling business in Russia, because I inherited from my mother, who inherited it from her parents, some beautiful cut glass. Some of it is stained ruby red and that is similar to what I have seen in Russian exhibits on occasion. I do not have much of it left, but I have a little bit. So that is what I assume he did. One of my uncles, my father's brother, actually went on and continued the business, because he used to provide us with seltzer water at the house.

Harden: Did it have a brand name?

Kirschstein: I have no idea.

Harden: Now, your father himself was a chemist. Can you tell us more about what he did?

Kirschstein: Yes. My father actually had a chemical engineering degree. He went to Columbia University, in the School of Engineering, and majored in chemical engineering. He was one of two Jewish men in the class of maybe 30 or 40. At the time they graduated I do not remember the year because my father had spent a year in the Army in World War I, and I can come back to that story in a little while it was about 1920, I guess, the professor said to the students as he went down the line, "Well, I'll get you a job here and you a job here and you a job here." When he got to the two Jewish men, he said, "I have no jobs to give you."

My father therefore ended up teaching chemistry in high school in New York City and creating some inventions of various types on the side.

Harden: Can you elaborate here? Which high school did he teach in?

Kirschstein: Peter Stuyvesant High School in New York City.

Harden: And he taught chemistry?

Kirschstein: He taught chemistry on and off there through my childhood. My father was the third of the children, and during World War I, things were rather different than they were subsequently. My grandfather asked to have his oldest son exempted [from the army] based on illness. His next son, who was his favorite, was exempted, and my father was the one who was chosen to serve. He served in the United States—he never went overseas, and that is all I know about it. He never talked about it very much.

Harden: But he was in the army. Tell us about his inventions.

Kirschstein: He was always clever at trying to do things. He tried to do some chemical inventions, which I know very little about. He finally invented something that has subsequently probably done very well, some sort of a sliding-window. You have to remember, in those days we had to lift the windows—there was no air conditioning—and put them down. He developed some sort of a sliding window, which somebody finally helped him get a patent for. He sold it to a company and never made any money out of it.

Hannaway: On your mother's side, her maiden name was Elizabeth Berm.

Kirschstein: Yes.

Hannaway: We were wondering if the B in your son's name was your mother's maiden name.

Kirschstein: No. Actually, probably originally the name was Baum, B-a-u-m. My mother was born in this country. Her father and mother had four children, three girls and a boy. The boy died. There were several boys on my father's side who also died. My mother's mother died very shortly after my mother was born. Her father never married again, and she was raised by her two older sisters. One in particular was very close to her. Somewhere along the line, the name changed from Baum to Berm, and that is all we know. The B in my son's name is a first name. You may know that the Jewish custom is to name your children after the most recently deceased relative. So Arnold was named for my husband's father, who was Abraham, and B was Bernard, which was my mother's father, whom I never knew, nor did I, as I say, know any of them.

Hannaway: What about your mother's education?

Kirschstein: My mother went to normal school right out of high school— that is, teacher's training school— which was a three-year course if I am not mistaken--so she was probably no more than 19 or, at the most, 20 when she finished. She immediately began teaching in public schools all through New York City. Some of it was in Harlem; most of it was in the Red Hook section of Brooklyn, which is downtown Brooklyn and a mostly Italian neighborhood.

Hannaway: What did she teach? Did she teach everything?

Kirschstein: Well, elementary school teachers in those days taught everything. She started with little children and gradually moved her way up to teaching the upper of the

eight grades. By the time I began to realize what she was doing, she was teaching fifth and sixth grade and then, subsequently, seventh and eighth grade. When she did that, she taught English and math, and she was a remarkably good teacher of English and math.

When my father died, and Alan and I and my son were already living in Bethesda, she came down to live in this area. I am an only child and my son is an only child. So, we brought her down here. New York City had compulsory retirement for teachers by age 70, and so she had retired when she came. She did volunteer school teaching in Montgomery County and the District until she was about 84.

Hannaway: That is amazing.

Kirschstein: She taught at Florence Crittenden homes, she taught at Julius West Junior High here, she taught all over. She ended up teaching at Whittier Woods Elementary School, where she taught really little ones to do early arithmetic with a very experimental type of teaching. It was something from France called Coulumbre [sp] rods, which are a little red cube for a one, a white rod for a two, and a different color for three up to nine. She taught three-, four-, and five-year-olds to do arithmetic by combining the rods and had a wonderful time doing it.

Hannaway: She obviously was a natural teacher.

Kirschstein: Yes.

Harden: We did not ask if there is anything else about either her or your father's hobbies or interests or anything else that you can recall that you would like to comment on.

Kirschstein: Those days were pretty hard. (My father loved music, and he instilled that love in me. I will come back to that.) My mother was very, very ill for much of my childhood. She became ill when I was about eight or nine and spent periods, in various hospitals in New York City, that were probably anywhere from six to eight months for three, four, or five years. Nobody could quite figure out what was wrong with her until, at Montefiore Hospital in New York City, in the Bronx, there was a German refugee physician who finally realized what she had. He suggested to my father how to change her diet, and she improved and was fine ever after.

Harden: My goodness.

Kirschstein: So she stayed on that diet for the rest of her life. She died at 89.

Harden: Do you know now what her ailment was?

Kirschstein: Yes. It was ñnon-tropical sprue,ö which is a vitamin deficiency that leads to the gastrointestinal tract being unable to absorb the wheat gluten. But, at any rate, [besides avoiding wheat] there was also a requirement that you not eat much fat. So she went on a high-protein other than wheat diet, a high-fruit diet, and did quite well.

Harden: That took care of it?

Kirschstein: Yes.

Hannaway: Is there any genetic basis for this?

Kirschstein: I hope not. I do not think we know. It is related in many ways to the gastrointestinal symptoms of cystic fibrosis, so there could be. But at least I do

not seem to have it.

Hannaway: You would know that by now.

Kirschstein: My mother also taught physical education for a while.

Hannaway: Yes.

Kirschstein: And dancing in elementary school. But my father really loved music, and so, despite the fact that we did not have much money, when I was six years old, he bought a second-hand piano and started me on piano lessons.

Harden: We will get to that, but I want to go back to a couple of other questions here before we get into your music, which was very important, obviously. Can you close your eyes and think what your earliest memory as a child was, where you were, what you remember, and can you talk about your neighborhood and so on?

Kirschstein: We lived in two different apartment houses, in my memory, on the same street in Brooklyn, Eastern Parkway. We moved when I must have been about seven from one apartment house up about three blocks on the same street to another one. It was a difference of one subway stop. The second apartment house was where my parents lived for the rest of the time that I lived at home and through the time that my father died. The second apartment house in which I grew up was really in a lovely neighborhood. It was across the street from the Brooklyn Botanical Gardens and the Brooklyn Art Museum, which is a remarkable institution. Are you from Brooklyn?

Hannaway: No, but I have read about it.

Kirschstein: We lived right up the street from the main branch of the Brooklyn Public Library, which was built after we moved there. We were within walking distance of the library in an area called Grand Army Plaza. If you read the *New York Times*, on a Saturday no more than about three or four weeks ago, they showed a picture of a tour bus, with Grand Army Plaza in the background, saying, "This is the newest tour attraction in New York City." I could not believe it. Anyway, I spent a great deal of my childhood in the botanic gardens, in the museum, and in the library.

Harden: Now, I am not familiar with Brooklyn. Was this predominantly a Jewish community?

Kirschstein: Yes, it was predominantly Jewish on Eastern Parkway all the way down to about three subway stops beyond where we lived, where there was a large synagogue and Jewish center with a day school for grades one through eight. This was where I went to school.

Hannaway: Was your family an observant family?

Kirschstein: No. It was not an observant family. My father, more than my mother, loved some of the tradition and imbued some of it in me. My grandfather was Orthodox. My father was a sort of free thinker and both he and my mother—I can talk about them and how they met sometime later—had both grown up to be very, very liberal, maybe even slightly radical, if you wish, and imbued it in me. My father had flirted with ethical culture at one point, and both of them had been involved in the settlement houses, particularly Madison House. Settlement houses were very common on the Lower East Side, dedicated to helping young,

poor immigrant children. In those days the area was primarily Italians, Jews, Irish, etc. My family's beliefs had a distinct flavor of Zionism. It was not observant, but it was

Hannaway: It was youthful and slightly radical?

Kirschstein: Right.

Harden: Were there any specific events in your early childhood that might have pushed you towards a scientific career, besides the fact that your father was in chemistry?

Kirschstein: I do not really know how much influence my mother's illness had on me. I became very close to my father because my mother was away so much. What I remember is that, in those days, children were not allowed to visit their parents in the hospital. My mother was in Mount Sinai Hospital in New York for quite a while, because she had a gastrointestinal disease, and Dr. Crohn, of Crohn's disease, was taking care of her, although she did not have Crohn's disease. She would be up there [in the hospital] and they would have her at a window, and I was down on the outside looking up and waving at her. That would go on week after week after week. I think there were periods of six and seven months when I never saw her, as a result.

Harden: My goodness.

Kirschstein: Whether that influenced what I wanted to do or not, I will never know. I honestly do not know. My father was a scholar of all sorts. He and she both imbued in me a love of reading, and, the library being close by, we would go there. As soon as I was old enough, I would go by myself.

Hannaway: You would just walk across the street?

Kirschstein: Yes. And my father talked. He had friends in. You asked about friends. I did not have very many close friends as a young girl. My parents, when my mother was better, had lots of these very intellectual, very free-thinking people to dinner in the apartment. People would talk for hours, and I would listen. So I was probably a typical only child who was...

Hannaway: Spent most of the time with the adults?

Kirschstein: Somewhat older intellectually and too young emotionally.

Harden: Let us explore this a little more. How did your parents meet? I would like to know. Obviously, they must have had what we might call a more feminist or equal way of looking at the marriage relationship.

Kirschstein: My mother certainly did.

Harden: Which was imbued into you as well.

Kirschstein: Yes.

Harden: Can you tell us more?

Kirschstein: My mother's best friend in school was my father's only sister. Through her, she met my father. They were in and out of each other's houses all the time. Actually, my mother, who had no mother and two sisters and a father working until he died, probably just as she was starting normal school. I do not know. It was much more in the house of her friend than vice versa. My father's family had somewhat more money than my mother's family did. I have an impression, though I really do not know, that my grandmother, whom I did not know,

probably did not approve of my mother marrying my father because she did not bring a dowry with her. My grandfather probably did approve, and he apparently lived with my parents for a year before he died and before I was born. They were married for three years before I was born. It was my father who then got my mother to participate in the settlement house and in many of the activities that were really quite radical in those days, if you will.

Harden: Stuyvesant High School was the science and math high school, was it not?

Kirschstein: Before the establishment of the Bronx High School of Science, Stuyvesant was the science and math school.

Harden: Dr. Robert Bowman went there.

Kirschstein: Did he? I did not know that.

Harden: Yes, he did.

Kirschstein: You know, he was a good friend, but I never talked to him about that.

Harden: Attending that school, as far as I can tell, was *the* salient experience of his life.

Kirschstein: Really? It is a wonderful school.

Harden: Who were your heroes as a girl?

Kirschstein: My father.

Harden: Your father. Why particularly?

Kirschstein: Partly because he never treated me like a child, and we lived together without my mother for a very long time. He took me everywhere with him. He took me to concerts when I was six years old; he took me to museums; he took me everywhere. Then I guess there were a series of heroes from books I read and so

forth, but I cannot remember.

Harden: Were there any literary heroines who had achieved great things who put the idea in your head that girls can do these things?

Kirschstein: I do not think it ever occurred to me that they could not do things. Nor would my mother have thought so. I read all the Willa Cather and Sigrid Undset books, and I started reading things like that when I was eight or nine or ten years old. So it never even occurred to me that I could not do anything I wanted. However, both my parents very much wanted me to be a musician. I did quite well at playing the piano. I went to a settlement house in Brooklyn to start my lessons. When it became clear to my father, at least, that I had gone beyond what those teachers could teach me, he found another one in lower Manhattan, on the East Side, called the Third Street Music Settlement School, which had much better teachers. I not only studied piano there, I taught there through the end of high school and all through college. I taught theory and composition there, and actually gave piano lessons privately. I made my spending money through college, not in high school but in college, by giving piano lessons and tutoring in math. Because I learned to play an orchestral instrument at the high school I went to, and the music settlement school had an orchestra, I joined that. So I did a lot of things in music, and my parents just made an assumption that that was what I was going to do.

Harden: The piano was not your only instrument?

Kirschstein: No. The piano was the instrument that I played from the time I was six years old and that I actually studied until I went away to medical school. The premise of

the high school that I went to, which was the High School of Music and Art--it was put together and started in about 1937--you could check it

Hannaway: Thirty-six.

Kirschstein: Thirty-six, okay.

Hannaway: We looked into that.

Kirschstein: By Fiorello LaGuardia, who was quite a remarkable man. We all thought he was a hero. Let me put it this way. He had the notion that children in New York City deserved to have their talents developed even if they did not plan to become professional in any way. One did not have to play an instrument to go to the High School of Music and Art if you were a musician. The art students probably had to bring some sort of a portfolio to show their talent. Music kids had to show that they had a sense of music, and there is a psychological test which I think is still used called the Seashore Test. Dr. Seashore was a psychologist of renown. I think he has had several children and grandchildren who have done the same thing. The Seashore Test basically tested your innate musical ability. Could you tell one tone was higher than another? Could you tell one rhythm was different than another? Could you tell that the flute sounded different from the clarinet even if you did not know what they were, and so forth? The prime thing, besides a certain amount of academic achievement that they demanded was the passage of that test. If you played a piano, when you went there, they taught you another instrument, because the premise was that the joy of music should be--it is something that I have felt all my life--playing together. So you started learning

an instrument in your first year. By the second half of the first year, second semester, you joined a very early orchestra and, finally, if you were good enough, progressed to the senior orchestra. If you played the violin or the cello, any string instrument but usually violin and cello, they did not require that you take another instrument because you would be in the orchestra.

Harden: Right.

Kirschstein: If you played the piano, you had to take another instrument, and for reasons that are totally unapparent to me, they chose the French horn for me.

Hannaway: That was quite a challenge.

Kirschstein: For the four years that I was there, I played the French horn, and for the four more years that I went to college, which was in New York City, I played the French horn in this settlement house orchestra. It was a glorious experience. Actually, in my high school class were twin girls, the Davis twins, whose father was a physician who was LaGuardia's doctor. One of the twins played the cello and one played the violin. They went on to Queen's College, where my husband was a student. They were in his class. It was a marvelous experience. We had wonderful teachers of music. But because this was an experiment and because of the musical atmosphere, musicians from all over came to see these students and see what happened to them and conduct them or play with them. So we gave a concert at Carnegie Hall with Stowkowski conducting. We had Koussevitzky conducting us. Isaac Stern, when he left California and came to New York, played with us. It was just the most glorious experience in the world. I do not

know what they told you at the school, whether it was very much?

Hannaway: No, not too much.

Kirschstein: The other person that I remember is I think she graduated a year or two before I did is Bess Myerson. She was the first Jewish and maybe the only Jewish Miss America. She was a singer. The school was just an absolutely marvelous experience. But, in addition, the academics were wonderful. I took as much science as I could, also both French and German, lots of English and English literature and history and so forth along the line. I had a marvelous chemistry professor, a man named Leo Sachs. Now, he was friends with and had taught with a man named Morris Meister, who was the first chemistry teacher and first principal of the Bronx High School of Science, which had been founded, I think, shortly after the High School of Music and Art. It too was a La Guardia school. Sachs had written textbooks. He was wonderful, and, again, was sort of an inspiration.

Hannaway: Was it a demonstration chemistry course, or did you do experiments, or did you have a laboratory?

Kirschstein: We did experiments. I know we did experiments in biology. I do not have much memory of it. New York State had a requirement, for its Board of Regents, by which you had to pass in all the courses you took to graduate. If you did not do very well, after taking Mr. Sachs' chemistry course, in the Regents, he would be pretty upset with you. So they were good teachers. They were all good. There was a wonderful teacher of an orchestra and wind instruments, and it was just a

remarkable experience.

Harden: Did you have a chance to perform on the piano with the orchestra?

Kirschstein: No. I had a wonderful teacher who taught at the Third Street Music Settlement in the winter, and then, in the summer, I would go to her house to study. I learned to play concertos from her, but I never really performed on the piano.

Hannaway: But the theory of music that you mentioned?

Kirschstein: I studied theory and harmony at high school.

Hannaway: Yes. That is what I am interested in.

Kirschstein: They taught us theory and harmony and solfeggio and all sorts of things at the High School of Music and Art. It was a remarkable experience. I also then studied and finally began to teach theory and harmony at the Third Street Settlement House.

Hannaway: So you would do four-part harmonies and things like that?

Kirschstein: Yes. I can also remember one other thing that may have had some influence on what I did, but I do not really know. In my third year at high school, there were a number of girls who ate lunch together every day. One of the girls, I cannot even remember her name, got a serious streptococcus infection and died. It was during the sulfonamide era, just prior to penicillin. I assume that she did not get sulfonamide, but I do not know, and it was quite a blow for us. She was maybe 16, and the whole school went to her funeral.

Hannaway: Yes.

Kirschstein: It was a very moving experience.

Hannaway: Yes, indeed. So your parents were thinking that you were going to be a musician?

Kirschstein: Yes. Incidentally, the high school was an hour's trip on the subway each way for me. We did it regularly twice a day. We would all pile on the train, one of us would get a seat, and everybody would pile their books on her lap. I also learned to do my homework on the subway.

Hannaway: Good training.

Kirschstein: Yes. My parents were assuming I was going to be a musician.

Harden: Were you thinking that, too, in high school? Were you assuming that you might be a musician?

Kirschstein: I do not think so. I think I knew, listening to some of the people that we had play to us, both in the school and who came to visit us, that I was probably pretty good, but I was not a genius at music. I was not interested probably ever - a couple of us used to talk about this - in being a second-rate French horn player in a little orchestra down in Texas somewhere or something like that. I had a friend who did that. We did have several students who went on to do really fine things. The first violist of the New York Philharmonic for years had been in my class. The bass player with the Cleveland Orchestra had been in my class. But if I was not going to be able to be first rate, I was not interested in doing that. My parents persisted in believing this was going to happen, but I knew it was not. I did not want to teach piano all my life either. So then I went to college. As an only child and without much money, even though there had been the possibility of a scholarship, my parents did not feel that they could trust me to leave home.

Harden: Let us pause for one minute before we get to your college education and go back to ask one question that we were interested in, and that is about the economics of the times. The 1930s were the Great Depression. Do you have any recollections of problems?

Kirschstein: Not in a personal way, because the greatest thing that one could have at that time was a civil service job, and my parents were schoolteachers. Now, we did not have a lot of money, but there were so many people who had so much less, and we helped a lot of other people along the way. I do not remember the election of 1932. I was eight years old. But I do remember listening to Roosevelt's inauguration on the radio, because I have never forgotten the one-third speech. One third of this nation is ill-clothed, ill-housed, and ill-fed. Franklin Roosevelt, of course, was everybody's hero. When he ran for re-election in 1936, he actually drove all the way down Eastern Parkway, and we stood out in a rainy, miserable day to see him with his fedora. He wore the top silk hat when he was being sworn in. We listened to all his fireside addresses, and I do remember the start of the March of Dimes, which was about 1930-something. I cannot remember whether it was before the 1936 election, or not.

Hannaway: It was 1935 maybe.

Kirschstein: Okay. So I do remember that. The people would come around and collect dimes, and then more than dimes. I do remember the epidemic of polio in 1936 in the summer, when I was 10 years old. My parents would take me out every morning with a stack of books to the Botanic Gardens to a stone bench that was away from

everybody else and not let me talk or go near anybody else. How frightened people were is depicted remarkably well in that film on television.

Harden: At that time. Is there anything else you can think of before we move into the college years?

Hannaway: No, unless Dr. Kirschstein has other things that she would like to mention.

Kirschstein: I do not think so.

Hannaway: We are going to talk now about your college experiences, and we know that you were an undergraduate at Long Island University.

Kirschstein: Yes. Long Island University was not a world-class college. The options, since I was staying in New York City, were NYU, Long Island University, or one of the wonderful city colleges. I guess by the time I was graduating from high school, I realized that I wanted to go to medical school. One did not get into medical school, particularly if you were Jewish, from any one of the city colleges of New York.

Harden: Really?

Kirschstein: That is right, even though their education was probably superior.

Hannaway: Yes.

Kirschstein: You had a better chance of getting in to medical school if you went to a private college. The obvious one that was very good was NYU, but the idea of going to a school with thousands of students just did not intrigue me, so I opted to go to Long Island University. Although it was not a world-class school, it had some very good teachers, and I learned a great deal. A lot of it was self-taught, but

there were some very good teachers and there were many interesting people there, besides which they gave me a scholarship.

Hannaway: What was the campus like?

Kirschstein: The campus was two buildings next to each other in downtown Brooklyn. Actually, I went back three or four years ago, when they gave me an honorary degree, and on the campus there were new buildings in the same neighborhood that made it seem a little more like George Washington University now. But in those days, it was just two old probably abandoned factory buildings that were turned into a university. The class consisted of two types of students: pre-meds and students who were going to go into merchandising. They had a very fine program for people who wanted to become merchants or buyers in department stores. The school was right in the neighborhood where Brooklyn, at that time, had its thriving downtown commercial district, and there were four or five, none of which are left, department stores not very far away from it. So it was not unnatural, for young women, particularly, but for women and men to do internships in the department stores as part of their merchandising classes.

Hannaway: What were the proportions of men and women in this college?

Kirschstein: This was 1943. There were probably more women than men. We were in the middle of the war.

Hannaway: Yes.

Kirschstein: Though there were men. Most of the men were deferred because they were planning to go to medical school. The university was very heavily Jewish, but not

completely. At the end when we graduated in 1947, I was the only one who got into medical school that year from the whole class. Others subsequently went on and got master's degrees or stayed an extra year, and a few got into medical school, but it was very tough along the way.

Harden: What courses did you take?

Kirschstein: I actually got a bachelor's degree with a major in the arts. I took a great deal of English, a lot of French, and a lot of German, so I got that arts degree, although I had taken all the pre-med courses and lots of chemistry and mathematics, as much as I could, and lots of biology. But I had enough courses to be able to get a Bachelor of Arts degree.

Harden: Were there any female professors? Or were they mostly men?

Kirschstein: The professors of the sciences were all men.

Harden: Yes.

Kirschstein: At least one professor, the dean, was a woman who was quite remarkable, named Mildred De Barrett. She was a great inspiration to those of us who were women, and she encouraged me mightily.

Harden: What about your male science professors? Were there any who thought it was improper for a woman to be in science?

Kirschstein: No, not at all.

Harden: Would you say they were encouraging then?

Kirschstein: Actually, New York City was very interesting. One of its best city colleges was Hunter College for women. I do not know what the professors at Long Island

thought in their hearts, but they never actually, in any way, picked on women particularly.

Hannaway: You said you had a scholarship to go to college. Did you have to pass any examination or did you make an application?

Kirschstein: No. It was based on my high school record and my Board of Regents scores and so forth.

Harden: Did you undertake any particular projects, such as research projects that had a strong impact on your decision to go into medicine?

Kirschstein: No. Actually, I had a strong obligation that, since I was not paying for college and I was living at home, I really needed not to ask my parents for extra money. I needed to make my own spending money. So I spent much of my free time, other than when I was studying, working by tutoring in math and giving piano lessons. So I did not have much extra time. I did a lot of school activities, but no research project.

Harden: What were those school activities you were involved in?

Kirschstein: One was something that right now I frankly am not particularly proud of. I joined a sorority, which I would not have done normally, but, again, I wanted some things on my record that would help me get into medical school. I ended up being the president of the sorority.

Harden: Which sorority was it?

Kirschstein: I do not even remember. It was a Jewish sorority. It is not something, as I say, that I am particularly proud of. But I did it. I played the French horn in the

college band. And LIU had a great basketball team. It turned out years later to be totally corrupt and that hit the newspapers, but they used to play games at Madison Square Garden, which was the great place for games, and I used to play in the band and get to see all the basketball games free. So those were the kind of activities we had. I really did not have any research interests. I still read prodigiously, and that is about all I did. I did work a couple of summers as a med tech in a laboratory for a local hospital.

Harden: Doing what?

Kirschstein: Doing blood chemistries and blood counts and so forth. So I knew a little bit by the time I finished.

Harden: And all through college, you never wavered in the idea that medical school was your goal.

Kirschstein: No. I never did. My father kept saying, "You're going to be a musician," and he kept pushing at me. It turned out that when he finally realized that I was not to be dissuaded, he supported me all the way. He said that he realized what a hard road it would be, and he wanted to be absolutely sure that that was what I wanted to do.

Hannaway: So he gave you a hard time.

Kirschstein: In fact, my mother finally told me that he had always wanted to go to medical school, which was something I did not know, and that after they had been married a couple of years, she said to him, "If you really want to do it, I'll teach and you try to go." He said, "No, we're married. I can't do that." She said, "Okay, then,

I am going to have a baby.ö

Hannaway: When you made this decision and you had completed college, how did you go about applying to go to medical school? What were the possibilities?

Kirschstein: That is really an interesting story. You apply to medical school when you are a senior in college, at the beginning of your senior year, and I knew how tough it was going to be. So I literally wrote letters to every medical school in the country requesting applications. Several of them, such as the University of Colorado, wrote back and said, öWe don't take out-of-staters.ö Thomas Jefferson Medical School wrote back and said, öWe don't take women.ö Others sent me their application forms, and I applied to a very large number. I worked harder and earned the \$20 or whatever for submission of each application and then waited. The first thing that happened was that Tulane called and asked if I would come for an interview with an alumnus who lived in Brooklyn, not very far from where we were, and whose office was in his home. It was very close to a subway station. So my father, deciding his daughter should not go traipsing around late at night in a neighborhood she was not used to, took me. He waited outside, thank God. But you have to understand that I had a very protective father. The alumnus and I had a marvelous talk. I do not even remember what we talked about.

Harden: It was a male interviewer, I take it.

Kirschstein: Yes. When we walked out, I said to my father, öThey're going to accept me,ö and they did. Every other school, up to that point, had turned me down. Then I traveled to three other places for interviews, one was at what is now called the Medical College of Pennsylvania

and was then the Women's Medical School in Philadelphia.

Hannaway: Right.

Kirschstein: So I went to Philadelphia. I also went to Yale for an interview, I will tell you that story in a minute, and I went to NYU for an interview. I was going up to Yale by myself on a train. I was ill at the time. I must have had the flu and I was running a fever, but I went anyway. After a full day, I ended up with the dean, who was also a psychiatrist. He looked at me and he said "I learned subsequently that he believed in stress interviews as a psychiatrist" "Have you ever considered changing your name to get accepted to medical school?" and I said no. I looked at him and said goodbye, and I turned on my heel and I left. By that time, I had the Tulane acceptance. I do not know what I would have done if I had not had that. Then, when Tulane accepted me, they demanded \$500 deposit, which, in 1947, was a lot of money; at least to me, it seemed like a lot of money.

Harden: Well, it was.

Kirschstein: I subsequently was also accepted at NYU, and at Women's, and my father said, "Of course, you will go to NYU." At that point, I realized that I had to get away from home, that this was an atmosphere that could only smother me. We lived in an apartment house - we were on the sixth floor. On the first floor, as was so common in those apartment houses, there was a doctor's suite. If I had gone to NYU medical school, to this day I would be practicing medicine in that suite and living in the apartment where my parents had lived. I realized I had to do something about it.

So I said to my father, "You'll lose the \$500," and we went back and forth like that for I do not know how long, and he finally gave in. So I went to Tulane, and it was the greatest thing that

ever happened to me.

Hannaway: You had not ever been south?

Kirschstein: No, and that was, as you read, probably, in what I told Peggy Dillon, a real turning point in my life.

Harden: I want to back up a little, too. We did some research on Tulane as a medical school, and we could see that, at least by 1950, which is shortly after you arrived, there were 4,000 applications for about 125 positions in the freshman class.

Kirschstein: In my class, it was 110.

Harden: But what I am getting at is that it was very competitive.

Kirschstein: Yes, it was. But Tulane had a reputation, and I do not know why, of being a medical school that did not have a real quota system for Jewish students the way most other medical schools in the country had.

Harden: You have never had any idea why, then, because Tulane does not mention this.

Kirschstein: The only reason that I can think of was that there was a large, affluent Jewish population in New Orleans. There was Touro Synagogue, which, after the synagogue in Newport, Rhode Island, was the second synagogue in the United States. So it may have had something to do with that. But when I got there, it was clear that in all the other classes and in my freshman class, too, there were many more Jewish men than you would expect; I was the first Jewish woman

Harden: Were there many other women in your class?

Kirschstein: Out of 110, there were 10. We were really the first class postwar. There were some stragglers in the class that started in 1946 who had gotten out of the Army

early. But 1947 was the year that the largest number of medical students, who had been soldiers and sailors in the war, entered. There were, I think, three women, one a nurse and a couple of others, who had been in the WACS.

Harden: I see.

Kirschstein: So there were seven non-military women. Of course, there was the GI Bill of Rights, so that those three women and a very large proportion of the men in my class were going to medical school under the GI Bill of Rights and were having their tuition paid for them. Therefore, we were the first class where a large number of the men were already married. A couple of the women married classmates during the period of time, the four years, that we were there, but none were married when they started.

Hannaway: It was a little older class?

Kirschstein: It was quite an older class. We had men who were in their forties in the class, not many, but a few.

Harden: John Duffy's history of the Tulane Medical Center notes that there was a brief rise in the number of women in the 1940s, but that normally the number fluctuated between 2.6 and 5.4 percent. Your class with seven would have been a higher percentage than that.

Kirschstein: Yes.

Harden: Who were these other women? Were they Southerners?

Kirschstein: Almost all of them were Southerners. I was certainly the only one from New York City and the only one from the Northeast. There were a couple of women

from Georgia, there were several from Florida, one or two from Florida. There was a woman who was married before she started, a Puerto Rican woman whose husband was on the faculty of the Pathology Department, and she came and started. I think she had been a nurse before. She got pregnant during our first year, had the baby, came back, stayed with us, and had a second baby somewhere along the line. She was really a remarkable woman, Anna Carrera.

Harden: She was allowed to do that?

Kirschstein: Yes, they let her do it. Would they have let her do it if her husband had not been on the faculty, I do not know.

Hannaway: Did you receive any scholarships or loans?

Kirschstein: No. My father paid for my tuition, and my parents sent me money to live on. I saved some of that money every week and sent it back to them as fast as I could.

Hannaway: But you were not doing any piano teaching or otherwise.

Kirschstein: No. I decided if I was going to go to medical school, I had better do nothing but study.

Harden: What was life like at Tulane for a young Jewish woman from New York?

Kirschstein: It was different in the second two years than it was in the first two. Tulane at that time was a medical school whose campus was divided. The medical, the clinical years, were in a building that adjoined Charity Hospital. This is the hospital run by the Daughters of Charity, those nuns with the big Flying-nun type hats. Louisiana was a very Catholic state. The hospital had been built by Huey Long, and the Long family was in ascendancy. The first two years of medical school,

which were the basic years, were spent in two buildings on the regular Tulane College campus, which was about a half hour away by bus or trolley, and you could take either, from the downtown.

Hannaway: Was it in the Garden District?

Kirschstein: Just next to the Garden District, right across the street from Audubon Park. It is a rather beautiful campus, actually. I did not have any knowledge of how things were going to go, and so I sought a room in one of the houses in the poorer areas near the campus so I could walk there. I lived with two sisters, one of whom was obviously divorced and who had a daughter, and the other one who had never married. I had a room and I shared a bath with them. We never talked about the fact that I was Jewish particularly. I had to get all my meals on campus.

What did happen, though, in the second year, 1948, was the election for President came up, and I voted by absentee ballot in New York City before I left. You may remember that that was the year when there were four candidates. There was Harry Truman, Thomas Dewey, Strom Thurmond, and Henry Wallace.

Harden: Right.

Kirschstein: I will leave you to guess whom I voted for, and I sat up all night election night worried that I had thrown the election to Thomas Dewey by voting for Henry Wallace.

Harden: Cal Baldwin also voted for Henry Wallace.

Kirschstein: Yes. Cal and I are good friends and talk about that. However, the entire household, those two women, were Strom Thurmond people. The next morning,

when I walked into school, luckily they did not know who I voted for, but these Southern men looked at me and said, "Did you vote for Truman?" and I just turned on my heel and walked away. We were good friends, but they had different politics. I will go back to where I started. I found that house through an advertisement in the New Orleans newspaper, and it really worked out very well. My mother's sister had had a son who, at about age 40, was killed in an airplane crash on his way to the Mayo Clinic for some illness or other, and my parents would not let me fly. So, for the four years that I was in New Orleans, I took the train back and forth. It was an overnight train, and I sat up. On the first trip, in August 1947, I got on at something like 4 or 5 o'clock in the afternoon, and in the morning at 6 o'clock, we stopped at Hattiesburg, Mississippi, and I raised the shade. We were at the railroad station, and the first thing that caught my eye was the two fountains with the signs. The High School of Music and Art was at 137th Street and Convent Avenue, right next to City College, in the heart of Harlem, and my friends and acquaintances and I were in and out of each other's houses. There was no such thing as segregation. In fact something you may not know is that the great governor of New York State, Herbert Lehman, had had a law passed by the legislature that said that you could not require photographs on college applications in order to be sure that there was no discrimination in college admission. So New York to me was a totally integrated society.

Hannaway: You interacted with people of all sorts.

Kirschstein: Everybody, anybody. Those two water fountains gave me the

shock of my life. It was reinforced by the segregated buses and trolley cars, which had these very ingenious devices, namely, a wooden structure on two pegs that fit into holes ground on the back rail of the seats. What one was supposed to do was to move it, so that colored people sat behind and white in front. If you got on and you needed a seat, you simply moved it, and the colored person was expected to stand up. I spent four years standing on buses and trolley cars. I never sat down.

Harden: Very interesting.

Kirschstein: The wards in the hospital were segregated, colored male, white male, colored female, white female. It was probably an experience that was very important to shaping my attitude toward things. It probably was very important in the things I did when I was director of NIGMS. But we will come back to that another time. But it was amazing. And almost all the class were Southerners, not all, but almost all.

Harden: Were there any discussions about this between you and your classmates?

Kirschstein: Actually, that was something I did not want to do. We became friends, all of us, and there were a number of people who were good friends, not bosom buddies but good friends. But it was something that I just decided I would not get into. I was there to go to medical school. We had an interesting class. I told you the oldest person was 40. We also had a class that had in it the bombardier on the Enola Gay. He subsequently died early of coronary artery

disease at about 55, something like that.

Harden: Did he ever talk about his experience?

Kirschstein: Yes.

Harden: What did he say? I would just be curious.

Kirschstein: I do not remember what he said. He did tell us about it. He believed it would end the war and it was supposed to be over that way. You know, I think we all did. I can remember in college, when the bomb was dropped, we were horrified. But two days or three days later, after the second bomb, the war was over and we burst into the streets. My parents and I, we walked for five miles or so, everybody celebrating with everybody else. The war was a very defining thing for us. So I think that you cannot judge the dropping of the bombs the way you judge things now. Again, maybe it is something we should have been ashamed of earlier. I do not know.

Harden: I do not think we have to judge. I was just curious.

Kirschstein: Anyway, it was a very diverse class. However, the professor of anatomy was a quite elderly, distinguished professor of histology.

Hannaway: Yes.

Kirschstein: We used to go in on weekends to study at the microscopes because, although you had your own microscope, you had to share the slides and so forth. I can remember him coming up to me on a Monday morning, because you had to sign in, and saying, "I see you broke the Sabbath yesterday by coming in." I looked at him and I said, "It's not my Sabbath," and let it go at that. He

never brought it up to me again after that. They did team us up as partners for the gross anatomy section. There were four students to a body, and they teamed us up so that there would not be just one woman at the table. So we had teams of two women and two men for each body until they got through the 10 women, and then the rest of the teams were all men.

Hannaway: So someone had thought about this?

Kirschstein: Yes. They had thought about that. The professor of gross anatomy was a wonderful man who was very tough, but very kind, and so he had thought about that.

Harden: Tell us about the anatomy class. When you first encountered the body to dissect, did you have particular thoughts, such as "Am I sure I really want to do this?"

Kirschstein: No, I do not think so. I had decided I was going to be a doctor, and that was all there was to it. I had dissected a cat in college. So we just did it. You wanted to pass, and it was not easy passing. I did not totally distinguish myself that first year. I had been first in my class in college and almost first in my class in high school, and at Tulane I was something like fortieth. So it was not easy, you just worked and studied all the time.

Harden: Was there a great deal of memorization?

Kirschstein: A great deal of memorization. In fact, one of the most interesting things for us as freshman medical students was that after two weeks of anatomy and histology, they told us we had a day off. The chairman of the Department of

Medicine, John Herr Musser, who was a very famous man, had died, and so the school closed for the day. Everybody else higher up was probably in mourning, but we were so anxious to have another day to study that it was thrilling. We actually went to school five and a half days. We went Saturday mornings. And then you spent Saturday afternoon studying. We also did something else. The one thing that a number of people felt, including Dr. Musser, was that medical students never thought about getting any fresh air or anything like that. They were always in libraries studying. The Tulane stadium— Tulane had a football team; it was called the Green Wave— was about two minutes away from where I lived, and they had the medical students usher Saturday afternoon home games. They gave you \$10, so we all did that. But that was about the only time we spent any time out. That was the only time I ever saw football games. I did not even know what football was and did not become particularly enamored of it, I would say.

Hannaway: Just to return to dissection, were the bodies that you dissected both whites and African Americans?

Kirschstein: I can remember that our body was white. I do not remember the others. Ours was a male. I do not remember whether there were any female bodies or not.

Harden: So, that first year, you took anatomy.

Kirschstein: I took gross anatomy, histology, and embryology, the first semester. The second semester, you took biochemistry, pharmacology, and

physiology.

Harden: When you got to the summer, did you take the summer off? Were you able to rest, or did you keep going?

Kirschstein: I went home. I went by train.

Harden: What kind of physical condition were you in at this point? I have lived with medical students and have seen how exhausted they get.

Kirschstein: I think I was fine. I do not remember. I think I went back to the hospital where I had been a med tech and worked there for the summer. The second summer, I was not in very good physical condition. We can come back to that when you want to because that is an interesting story.

Harden: We will get there.

Hannaway: What subjects did you take in your second year?

Kirschstein: In the second year, we took pathology and microbiology, which was called bacteriology then, but actually it is now probably microbiology, and then took physical diagnosis. Physical diagnosis was taught downtown at the clinical area near Charity Hospital, and we actually got to see some patients and went to case presentations in the second half of the year.

Hannaway: The second half of your second year?

Kirschstein: The second half of the second year.

Harden: In those first two more basic science years, were there particular

professors who stand out that you would like to talk about?

Kirschstein: Yes. It was more in the second year than in the first year. Both the professor of pathology and the professor of microbiology, both of whom became dear friends later on. Charles Dunlap was the professor of pathology. He had gone to Harvard and studied in Boston, he had been at Mass General. When I went back to Tulane in the Pathology Department in 1953, it was through Charlie that I got my fellowship, and when we moved up here, he came and visited us in Bethesda. There were other people in pathology. There was one wonderful diagnostician, a surgical pathologist, Will Sternberg, who also became a friend. His wife was a practicing OB-GYN in town. There were several others that I became very friendly with later in the course of my career when I went back. The professor of microbiology was Morris Schaefer. Now, there are two Morris Schaefer's, if you know the history of microbiology. One was the Morris Schaefer who was at the CDC and the New York City Public Health Department. That is not the one. That is an interesting story. I became very close to that one later, too. This was Morris Schaefer who was a really well-known microbiologist, bacteriologist, and whose wife had had rheumatic heart disease. Sometime later, maybe in my senior year, he attended a meeting, and they had to find him and tell him his wife

was dead, and they told the wrong Morris Schaefer.

Harden: Oh dear.

Kirschstein: The Tulane Morris Schaefer subsequently married again, a woman pediatrician, Margaret Smith, and we were all very good friends. They were wonderful people.

Hannaway: Were these professors primarily Southerners?

Kirschstein: Most had come from outside and gone down to Tulane. At the Tulane Medical School, although there were professors who were Southerners, the thing that in those days made it such a treat was that there were a large number of professors who had been educated at Yale and Harvard and the University of Pennsylvania, which is where Professor Musser had come from. There is a Musser Library up at Penn. There is a Musser Library at Tulane. I do not know what it was, whether it was that they went to Tulane to found a new curriculum. The three great medical schools of the South—this is well before the Texas era—were Tulane, Vanderbilt, and Emory, and, of the three, Vanderbilt is probably the only one that has truly maintained its prominence over the years. One of the things that was said was that this wealthy community of Jewish people in New Orleans, when they went to give philanthropic money to schools, would give it to Harvard and Yale and Penn rather than to Tulane, although many of them had

gone to Tulane, and I do not know why.

Harden: That is very interesting. Let us talk a little more about your experiences in New Orleans, which I note that you pronounce, like a Southerner. You lived there long enough to pick that up.

Kirschstein: Yes.

Harden: What did you find that you enjoyed about the South, about living in New Orleans? Anything special?

Kirschstein: New Orleans was a very international city. Among the things that were fascinating was the fact that we had several South Americans and Puerto Ricans in our class. We had several professors who had spent time in South America. The city in those days was relatively safe, so you could walk around. Now you would not dare. It was quite beautiful. I was rather startled by the winters, with camellias blooming in December, so much so that when I came back North to live, it was very hard to adjust to the cold weather. I liked most of the people I met. They were friendly, they were nice. I did not like the segregation, and it really bothered me. I liked walking in the French Quarter. I had the opportunity to eat there because a couple of friends of my father who were fairly wealthy people would come to New Orleans on business and take me to dinner occasionally in the fancy restaurants. But there were little nooks where you could go and

eat, and there were some very good cafeterias, such as Morrison's cafeteria, where you could eat very inexpensively. In the third and fourth years, I moved because I was too far away from the clinical part, but I did not move right downtown. The downtown area was not where you lived. But I moved to a street on a bus route, and I moved in with a Jewish family. I do not know whether I realized that when I was looking for it, but there it was. It was a woman who was widowed, had this house, and lived with her daughter and son-in-law and a little girl. I had a bedroom with my own bath, and the woman would give me breakfast, which is what I did not have before. I became very good friends with them. They were typically Southern. I could not believe the Jews were acting that way, but, nevertheless, they were wonderful. I did go with them to the holiday services because they wanted me to, and enjoyed it. They were lovely.

Harden: I want just to make a couple of statements for you to respond to, and then I want to hear about the summer between your second and third year. Talking about the three medical schools of prominence in the South, Tulane apparently began its situation as an important medical school in the nineteenth century with the French medical faculty, and so it had always enjoyed this status in this international city. I know that the Public Health Service had a lot

of connections because New Orleans was a port, and I know that George McCoy, a former NIH director, went down and, I believe, helped to establish the School of Public Health. I just wondered if you had any recollections of any Public Health Service interactions with Tulane.

Kirschstein: It had them later on, which I will get back to. But I think we went out occasionally to the Marine Hospital. There were unusual patients there. They did take us up to Carville during our clinical years.

Harden: You went to the Carville leprosarium?

Kirschstein: Oh, yes. In addition, one of the things that was quite remarkable that we saw in our clinical years was some fairly exotic diseases, including exotic sexually transmitted diseases that you would not believe you would see. First of all, there was a lot of syphilis, called "bad blood." For every patient you learned quickly to ask, "Have you got bad blood or not?" and then there were some other very exotic diseases. We had a wonderful couple of professors of infectious diseases during the clinical time, and lots of very interesting and relatively unusual disease and a lot of heart disease, because George Burch was the chair of medicine. He became the youngest chair of medicine when Dr. Musser died in 1947, and was a preeminent cardiologist whose brother was in our class. The

French influence was there in that there were patients that you saw who spoke a little French, a little English. There were patients who spoke Creole. In some circles the women had a sense of being ladies. Charlie Dunlap had a secretary whose first name was Amalie--I cannot remember her last name, but it was very French--and Amalie came to work every day in the summer with a parasol and white gloves.

Harden: Oh, absolutely.

Hannaway: Was she from an Acadian French background?

Kirschstein: I have no idea. She was just French, very French.

Harden: What happened in the second year? Perhaps, before we get to the summer, is there anything else about course work in the first and second years that we should discuss?

Kirschstein: First of all, I fell in love with pathology. I just loved it. Now, I ended up falling in love with everything I did, and Dr. Dunlap was wonderful. There was a second thing that happened, and, unfortunately, I cannot remember the man's name. Tulane got a new professor of psychiatry, who came from Columbia, and he gave us some lectures at the end of the first year. He was remarkably charismatic, and half the class decided to go into psychiatry. They did not all do so, but many of them did. Now one other thing happened. One of the graduate students in the

Microbiology Department at Tulane, Don Feldman, and I became good friends and dated a bit. Then, one day, he said to me, "I was at the University of Rochester, and I have a friend that I met there whom I think you would like more than you would like me. If I give you his address, will you write to him?" and I said no. The next thing I knew, the friend wrote to me. So Al, my future husband, and I corresponded from probably March, maybe April, about once a week until I left to go back to New York.

Harden: And you never met him?

Kirschstein: No. Except that when I arrived on the train at Penn Station in New York, there was my father, and there was Al.

Harden: I see.

Kirschstein: My father glared and looked at me, and we introduced ourselves to each other, and I went home with my father. Al called me that night and we saw each other every day that summer. About two weeks after I got home, I got infectious mononucleosis and was quite sick for the rest of the summer. Al would come every day and talk medicine with me. Now, he was a year ahead of me at medical school. By the end of the summer, we knew we were going to get married. I met his mother—he did not have a father—my parents met his mother. They loved his mother. I am not sure what my father thought of Al except that he was sure I was going

to flunk out of medical school. So I went back to Tulane, and Al stayed for the year in Brooklyn. He was going to medical school in Brooklyn. Again, we wrote. My father said, "You're going to flunk out," and, of course, I did better than I had done in the first two years. Al had a sister who lived in Miami, who was married and had a baby. So, at Christmas, I took a bus to Miami and he took a bus to Miami, and we stayed there for the Christmas holiday, with two separate rooms. My parents were very upset, but...

Hannaway: You were in love.

Kirschstein: Then, I decided I was going to work at Sloan Kettering Hospital in New York for the summer between my junior and senior years. Charlie Dunlap had a very good friend who was then at Sloan Kettering named Rulon Rawson, an oncologist, and he offered me a volunteer job for the summer working at Sloan Kettering and doing some research on patients. I accepted it before I knew where Al was going to be for his internship. When I discovered that he was going to be in Boston, we talked about it and realized that my parents would not let me go to Boston to see him on weekends. So we told them we were going to get married. We got married on five days' notice, in the apartment in which I had grown up. The ceremony was performed by the rabbi from the Jewish center to

which I had gone in elementary school. It was wonderful. It has been wonderful ever since.

Harden: I was going to say, "They lived happily ever after."

Kirschstein: You are not kidding.

Hannaway: Was it a traditional Jewish wedding?

Kirschstein: Yes. It was a traditional Jewish wedding within the bounds of the fact that we were not in a kosher house, and the rabbi did not eat, but other than that, it was traditional. My mother and I made all the food, and I just picked out a dress that I had had for years, and wore it. My father's family, he still had, I guess, six or seven brothers and a sister. My mother-in-law, my mother's two sisters, and my own sister-in-law, who, when she found out we were getting married, was very upset that she would not be there, so she came up from Miami. We left them to party, and we left.

Harden: Now, let us back up a little. What was it about this young man that impressed you, besides the fact that he was there and was willing to talk medicine with you? Was it his vision for the future?

Kirschstein: I do not know. But, in fact, it did not take but about two days. Actually, in the times that I was not sick, as he loved music as much as I did, we went up to Lewisohn Stadium every night—that is the outdoor stadium where the New York Philharmonic played—for 35 cents apiece.

Hannaway: You went to concerts?

Kirschstein: We went all over together. We walked around. He loved medicine.

Harden: He did not have any problems at all with the fact that you were going to be a physician and not a homemaker.

Kirschstein: I think that is exactly what he wanted. So did I.

Hannaway: So the New York man who introduced you to him?

Kirschstein: He subsequently got married and is a good friend of ours.

Hannaway: But when you corresponded before you had met each other, did you write about medicine, or just things about your families?

Kirschstein: I think so. I really do not remember.

Harden: Did he come from a family background similar to yours?

Kirschstein: No, not really. His parents had both been born in Russia of [Jewish parents] and in a not too dissimilar location from that of my father. His mother, with her older sister, had come alone at age 17 to relatives who lived in Connecticut. She and her sister worked in a shirtwaist factory sewing shirtwaists, those high-necked blouses that women in those days wore. I do not know what her husband did before they were married. He had died when Al was 15, 16, or 17. I cannot remember exactly. They opened a candy store in Queens, the kind of candy store that you have in New York City, open seven days a week from six in the morning

till midnight, that sold newspapers, cigarettes, cigars, penny candy, and sodas. They lived in the back of the store. Al's sister and he, as they got to be teenagers, both worked in the store. His father worked in the store, his mother worked in the store. When the store finally closed just before I met him, and she sat down for the first time, I do not think people ever thought she would walk again. So, it was a very tough life. Al went to Queens College for one year, and started out to be an engineer. He can tell you more than I can, and I do not know whether he will do it. Have you talked to him?

Harden: No.

Kirschstein: The war was a very important thing for those of us who were fighting the Nazis. Al was not drafted because of his eyesight, and he joined the Merchant Marine. Now, he did not go to sea, but at least he was doing something. At the end of that time, he knew he wanted to go to medical school, and he went to the University of Rochester for a summer, a year, and part of the following summer. He had had one year at Queens, and finally got into medical school at what was then Long Island College of Medicine— it is now Downstate— and he lived for the year at the Y.M.C.A. in Brooklyn. His sister got married at the beginning of his first year, and she moved to Florida. So she and her husband sold the store

and set my mother-in-law and Al up in an apartment in Brooklyn, in what was called a railroad flat, a cold-water flat. It was railroad because all of the rooms were in a line and cold water because you had to heat up the water.

Hannaway: Yes.

Kirschstein: His mother did not work, and he went to medical school. By the time he was due to go to the second year of medical school, at the end of his first year, he did not have enough money to go. The question was, how was he going to find the money? He really is a remarkable person. He was reading in the medical school library, or maybe at the New York Academy of Medicine—he used to go up there all the time; it was a great place—and saw an advertisement for a prize that one of the drug companies was giving for the best essay on an endocrine disease. He wrote a paper on the thyroid and won enough money to go back to school the second year.

Hannaway: That is an amazing story.

Harden: It certainly is. I am somewhat confused, however, looking at his curriculum vitae—this is what I have on him—which indicates that apparently he was getting his B.A. in 1948 and then an M.D. in 1950.

Kirschstein: Yes, right.

Harden: How did he manage this?

Kirschstein: He went to Rochester in 1945 and 1946, and they gave him credit for his first year of medical school toward the bachelor's degree.

Harden: All right. I was trying to figure out if it was a special accelerated program.

Kirschstein: No. That was not uncommon then, giving credit for the first year of medical school.

Harden: Let us see if we can put your personal story together now.

Hannaway: You were in your third year at Tulane and you got married.

Kirschstein: I went back to New Orleans and he went to Boston for the year.

Harden: That was for your last year?

Kirschstein: My last year of medical school.

Harden: We have got that straight. But let us go back for a moment and talk about your third year of medical school. This was your first clinical year, and you had moved in with this new family. Where were you? Was it at Charity Hospital that you were doing your clinical work?

Kirschstein: Yes. All of the work was at Charity Hospital, with one exception, which was also at a Charity Hospital, but not Charity Hospital in New Orleans. We took medicine, we took pediatrics, we took surgery, we took medical subspecialties, and so forth, all through that year. And we took Ob-Gyn. Charity Hospital had the largest

delivery section, particularly in its colored female wards. The Ob-Gyn Department also ran one of the Charity Hospitals in a rural area of the state of Louisiana in Lafayette. And they used to send students up there. So two of us, another woman and I, went up there, and when we got there, the resident said, "Oh, good. You're in charge. I just got married. I'm going home." The first baby I ever delivered was nine pounds. But the mother knew how to do it. Anyway, that was a very interesting experience.

Harden: I will bet.

Kirschstein: It was a very intense year. We did get Christmas vacation. For my first two years in medical school, I did not go home at Christmas. I stayed down there. The third year, I went to my sister-in-law's in Miami, and the fourth year I somehow scraped together enough money and went to New York. Al came down from Boston and we had some time together. Then he had a week's vacation and he came down to New Orleans for a week in the spring of 1951, I guess.

Harden: It is hard to beat spring in New Orleans.

Kirschstein: Yes.

Harden: All right. What else do we need to think about in terms of your clinical studies? Are there professors that you recall from that time that impressed you?

Kirschstein: There were a number of people in the Medicine Department who were just remarkable. I do not remember many of their names. And then pediatrics was really wonderful. Ralph Plateau[?] was chair of pediatrics, and this wonderful woman, Margaret Smith. She is the one who married Morris Schaefer. I fell in love with everything I did. I was going to be a pediatrician and I was going to be this and I was going to be that. I ended up deciding that I wanted to get as broad an experience as possible during my internship, and so I did an internship at Kings County Hospital in Brooklyn, which was the major hospital where the Long Island College of Medicine had its students. The equivalent of Bellevue was Kings County Hospital in Brooklyn, a very large hospital, with all free patients, and I did six months of medicine and six months of surgery.

Hannaway: So that was to get this general experience.

Kirschstein: Yes. Al was coming back to New York in pathology. We lived, except for when I was on duty, in the apartment house that he and his mother shared. She lived with us, and I adored her. She was the most wonderful person I had ever met. I loved her.

Harden: So you were doing an internship, and he wasí

Kirschstein: He was at University Hospital, NYU. That was at 21st Street on the East Side, and I was at Kings County.

Harden: He was in pathology?

Kirschstein: Yes.

Harden: So he had more regular hours.

Kirschstein: He was in pathology. He had more regular hours, and he would come down [to my hospital]. He knew the hospital where I was very well. He had a lot of friends there, because many of the young men and women who had been in his class took a second-year of internship in those days. That was not uncommon.

Hannaway: Were you on call a lot? Did you have to stay in the hospital?

Kirschstein: Yes. I stayed in the hospital probably five out of seven nights a week, maybe even six occasionally, because they were very short on interns.

Harden: Do you have any opinions now about putting interns through this kind of pressure? I mean, there are both positive things and the negative things about this.

Kirschstein: The positive things were what you learned. It was incredible. I do not believe you can really learn that without doing so. The hospital was enormously overcrowded, and we had patients in the halls. We had patients who would not go home. We had patients who were very sick. We had patients who were pretending they were sick. We had all sorts of things. But it was an enormous learning experience, and there were some wonderful professors

who taught us a great deal.

Harden: Did you get to see a broad range of illnesses?

Kirschstein: Very broad.

Hannaway: But was it a slightly different range of diseases than you had seen in New Orleans, or was it fairly similar? You had mentioned the more exotic diseases that you saw in the south.

Kirschstein: They were not too dissimilar. You did not see the exotic diseases, but you saw a lot of tuberculosis, and that is where I got tuberculosis, although we did not know it at the time. You saw a lot of tumors; a lot of cirrhosis of the liver, probably more than you saw in New Orleans, although you saw other kinds of liver disease; a lot of heart disease; an enormous amount of stroke. There was one building on the Kings County grounds, that was for people who were comatose, and you had to pass feeding tubes to feed them every day. You could not leave the tube down because it eroded the gastrointestinal mucosa. There was an enormous amount of various kinds of diseases. The city hospitals in New York were required to accept anybody who walked in who was sick enough to be hospitalized. We did a lot of emergency room medicine; I did a couple of months in the emergency room. You would get coming into the emergency room someone who obviously was very sick of lung disease. You did not know quite

what it was and you would work him up, and it would be tuberculosis. You had to wait not just for the smear, but for the culture, which took six weeks, and the patient stayed for six weeks. The patient began to get better, because he was treated with streptomycin or, at least, he felt better. (Isoniazid did not come along until 1955, or 1956. I remember that very clearly.) The patient felt as though he was better, so he signed himself out of the hospital. Or you sent him to a sanitarium, and when he felt better, he would also sign himself out of there. When he got sick, he would come back in and you would start all over again. You had to wait again for the culture. So you saw a lot of pretty devastating things. You lost patients. It was pretty hard.

Harden: When did you find out that you had contracted tuberculosis?

Kirschstein: Not till we got to Bethesda.

Harden: Not until you got here?

Kirschstein: That is the story. In that year [at Kings County], there were about 100 interns, and about eight or nine got overt tuberculosis during the year. When we got here, I was pregnant. We had been many places, and we can come back to that. I was pregnant but wanted to finish my residency. I had only one year left of a residency in pathology for my Boards and wanted to start right away. George Williams was in charge of clinical pathology. I went to see him,

and he said, "I could use you, but let's wait till the baby comes." I said, "No. There is no reason why I can't do this." This was clinical pathology; this was not anatomic, not surgical and autopsies. I had done that already. He would not take me. He obviously was smarter than we were, because the baby was born two months premature and weighed four pounds. It would have been pretty awful if that had happened while I was trying to work. I stayed home with the baby until January 2 and then came and finished the residency.

Harden: We are going to come back to all this. When did you finally decide that pathology was what you wanted to specialize in?

Kirschstein: Al and I talked about it, and we decided that if we wanted to have a life that was not totally hectic, and since we both loved pathology, it would be reasonable to do it. I loved pathology as much as I loved everything else, so it worked out just fine. Al had known he wanted to do pathology all the time and I think he knew he wanted to do research. I probably did not at the time.

Hannaway: But may I just ask, did no one ever encourage you to go into Ob-Gyn?

Kirschstein: Nobody ever encouraged me? Well, I do not know about that.

Hannaway: Because that was often a choice for women.

Kirschstein: I do not think that was true. I think there were people who talked

about it, and there was enormous encouragement to do pediatrics.

Hannaway: Yes.

Kirschstein: In fact, when we went back to New Orleans, Ralph Plateau and Margaret Schaefer at that point she was married to Morris wanted me to move into the Pediatrics Department, and I decided not to do it, that I was going to do pathology. They said, "Why don't you do pediatric pathology?" and I decided I would rather do general pathology. There were lots of things people tried to persuade me to do.

Harden: A lot of which had stereotypical underpinnings?

Kirschstein: Exactly.

Harden: In 1952, then, you moved to the Atlanta area. You were at the VA Hospital in Chamblee as an assistant resident in pathology, and this, I take it, was when you were doing the anatomical pathology work.

Kirschstein: Yes.

Harden: Dr. Rabson was, as I remember it, in one of the very first EIS [Epidemic Intelligence Service] classes.

Kirschstein: He was in the second EIS class. That is why we went to Atlanta. With the doctor draft, it was clear that it was very possible that he

would be drafted into the Army. He decided, as so many people did, that he would go into the Public Health Service instead. I think, in 1952, people were not coming to the NIH, because there was no hospital here. Al will tell you that the woman to whom he talked in the Public Health Service said, "We have a great assignment in the Pribiloff Islands, which are off Alaska," and he said, "I don't know what my wife would do." She then suggested that he talk to people at the CDC [Centers for Disease Control], and they took him into the Epidemic Intelligence Service's second class, which was a set of courses primarily for three months in Atlanta and then assignments out to some location within the States. So we went down there, and I wrote to Merrill Wharton, who was chief of pathology at the Atlanta VA [Veterans Administration] Hospital, which was then on the old Fort Lawton grounds, which had been the military post outside Atlanta, in Chamblee, Georgia. The CDC courses were at a downtown building in Atlanta.

Harden: Near Grady Hospital maybe?

Kirschstein: Yes, near Grady. Actually, the Pathology Department at the VA was associated with Grady Hospital, and we used to go down once a week to meet with the professor at Grady. We lived in an old barracks for that three-month period, until we knew where Al was

going to be assigned. Dr. Wharton knew from the day I started that it was possible that I would only be there for three months. He did not have a full complement of residents. I think there were only two of us, and they probably needed four.

Harden: So you were only there for three months. It was unclear to me just how long you were in Georgia.

Kirschstein: We were there July, August, September, and we moved to Detroit in October.

Harden: Now, if I may ask, this was a time when the EIS program was just getting going?

Kirschstein: It was just getting started.

Harden: Do you have memories of this? Of Alexander Langmuir and some of the other people?

Kirschstein: We both have memories of Langmuir, and Langmuir became a very close friend.

Harden: Can you talk a little about him?

Kirschstein: Al got to know him well. Now, we did not have a car, and Chamblee is a fair distance from downtown Atlanta. Al would take a cab every day from Chamblee to the city line, and then there would be a trolley or a bus--a bus, I think. We would also do that when we went into the city in the evening occasionally, or when I would go down to Grady once a week. We, the residents, and Dr.

Wharton used to go to Grady on Friday afternoons. Then I would meet Al, and we would take the bus and then a cab back. Al talked about Alex. He will tell you that Alex was a wonderful human being and was a tremendous influence on him. Alex finally began to give assignments to the various people. He told Al that he needed someone to help him with a problem that was, frankly, as much diplomatic and political as it was scientific. The city of Detroit and the city of Windsor, Ontario, shared the Detroit River. There is a bridge that goes across and also a ferry. The people of the city of Windsor had told the Canadian government officials that, not dissimilar to the Donora problem outside of Pittsburgh, they were suffering from diseases due to the air pollution from the smokestacks of the automobile factories in Detroit. Alex needed somebody to go to work with the Detroit City Health Department to try to see whether they could do the epidemiologic study that was needed to determine whether this was true or not. I do not remember in detail why he chose Al to do that. There may have been reasons. Partly it may have been related to pathology, because there would be lungs involved. In fact, I think that was probably it. So Al agreed to do it. I then promptly wrote to the chair of pathology at Henry Ford [Hospital], who did not have an opening, and to Providence Hospital in Detroit, which was right up

the street from Henry Ford, on Grand Boulevard, and the chair of pathology there accepted me to start on October 1. The great blessing was that everybody needed a pathology resident almost everywhere you went. It was not a field that people were going into in a big way in those days. Don Kaumpf was the head of pathology. We settled into an apartment about five or six blocks away, a good bus ride away, and Al would go to the City Health Department every day and I would go down to Grand Boulevard. I learned a lot of pathology. Don Kaumpf was a Mayo-trained pathologist. The City of Detroit had a whole series of Mayo-trained pathologists, all of whom were involved in the medical school there. They believed that you should get academic training as well as practical experience. So I went and started working on a master's degree in pathology while I was doing my residency. This was at Wayne State. Al worked on all sorts of things, but a lot of what he did was be polite and help the Canadian officials who came to visit, and he can tell you about that.

Harden: It involved a lot of

Kirschstein: Diplomacy.

Hannaway: But he was continuing to be employed by the CDC?

Kirschstein: Yes. It really was an assignment from the CDC to Detroit. Dr. Langmuir was very grateful to Al for doing this "small job"

öpoliticalö assignment. So at the end of the nine-month assignment, Langmuir thanked him and said, öWhat would you like to do?ö Al said, öI would like to learn virology, and I would like to go to Ann Arbor to work with Thomas Francis.ö That suited us fine, because I did not want to change jobs again, though I would have if I had to. I would have gone to Ann Arbor to do pathology, but the chair of pathology there decided he would not take a woman.

Harden: I see.

Kirschstein: So I stayed with Don Kaumpf, and there was a little two-car commuter train that ran back and forth from Ann Arbor in the morning to Detroit and from Detroit in the evening to Ann Arbor.

Harden: How far apart are the two places?

Kirschstein: About 40 miles. Al would meet me at the railroad station every evening. In pathology, you did not have to stay late at night. The one thing Don said was, öIf youöI do all sorts of other things, I wonö make you come in to do night autopsies.ö They did not do night autopsies in a private hospital, anyway, because they had to bring the diener [morgue assistant] in and they were not going to spend the money doing that. So we moved to Ann Arbor. We rented a house from a couple who lived in the basement. My mother-in-law had moved to Florida by then to be with my sister-

in-law. Though she had a place of her own, she spent a good bit of the winter with us in Detroit, and a good bit of the summer and fall in Ann Arbor. She was great buddies with the elderly couple who lived in the basement, and it was just lovely. She loved Ann Arbor dearly.

Harden: You were talking about working under Mayo-trained pathologists. How did that compare with working under your supervisor in Atlanta?

Kirschstein: They were all very good. They really were.

Harden: You did have trouble with this gentleman who would not take a woman.

Kirschstein: Yes. I was looking for a residency at the University of Michigan and Dr. Carl Waller, the chair of pathology, would not take me because I was a woman. I got the position at the V.A.[Veterans Administration] in Atlanta because Merrill Wharton had been at Harvard and he knew Charlie Dunlap. And Merrill was a real scholar. Why he ended up at the V.A. hospital there, I do not know. He subsequently moved elsewhere, and we became friends for a while. Mayo trained scholarly people, but they all went to small hospitals. It was almost as though Mayo wanted to people hospitals in the Midwest with scholarly pathologists. They brought a level of pathology to those hospitals that was quite remarkable.

There was a very active Detroit Pathology Society which met regularly, once every two weeks or so, at Henry Ford Hospital. I spent a short part of my training at Henry Ford and at the Detroit Receiving Hospital, which is the city hospital. I did infectious disease pathology there again. There was a very well-known man in hematology, Larry Berman, at Detroit Receiving that I spent time with. So it was a first-class experience for me. I was there for a year and nine months, which was a great advantage.

Hannaway: Was there any sort of rivalry with the East Coast, that is, was there an East Coast medical tradition and a Midwestern one?

Kirschstein: No. It never came up. He was glad to have me. We were glad to be there.

Harden: Did you get to know many of the virology people in Tom Francis's laboratory?

Kirschstein: Yes. Al knew them better, but I would get to know them on the weekends. What happened to Al was that he never spent as much time with Dr. Francis as he wanted to, because within months of Al's arrival, Dr. Francis went off to analyze the Salk vaccine data and they sequestered him somewhere. But Dr. Francis used to come back and they would talk. Al did the gamma globulin study. They had administered human gamma globulin to a number of persons and then they were doing the epidemiologic survey of

whether such people were protected from polio and did they have antibodies. Al learned to drive a car because he had to drive all over the state of Michigan. So he learned to drive a car at the beginning of the study. Neither of us had ever driven. But we still did not have a car. Living in a Big 10 college city was lovely. It was lots of fun, except that it was cold. But it was a fascinating place to live. There were lots of interesting people, and we had a number of people we met and enjoyed. As that period began to come to an end, because Alex said to him, "I'll only give you a year of this coveted experience, Al made the decision that if he could get a residency in pathology in the Public Health Service, he would stay, and he applied to three hospitals. His first choice was Staten Island. I do not remember what his second choice was. His third choice was New Orleans, so he got New Orleans. At the point that he knew that, I wrote to Dr. Dunlap and said, "Could I come back?" "I had never done pathology there" "and be in the department?" Dr. Dunlap arranged that George Burch and he would sponsor me for a fellowship through the National Heart Lung and Blood Institute, which was only the National Heart Institute at the time.

Harden: I want to go into detail about that. Is there anything else you want to ask at this point?

Hannaway: No. I think we have covered most of the period between 1952 and 1954.

Harden: I have one other small question. When did you finally learn to drive a car?

Kirschstein: That is a good story. When we knew we were going to go to New Orleans, we were close to Detroit and the automobile companies and we did not have to pay the freight charges, so we bought a car, probably in May of 1954. I went back into Detroit on weekends to take driver's lessons. Al had taken them there. All this time we had kept my mother-in-law's apartment in New York. It was negligible rent. We decided we had to close that out. She would move to Miami permanently. So we went back to New York, closed the apartment, stopped renting it, and then drove to New Orleans to start our New Orleans adventure.

Hannaway: So this was a big driving adventure?

Kirschstein: When we drove down to New Orleans, I did not do any of the driving. In fact, I did not do a lot of driving until we got here [to Bethesda].

Harden: The interstate highways were certainly not finished then. I know they were not finished in the 1960s.

Kirschstein: We went down Route 1. We went by the Smokies. We took ourselves a fairly leisurely trip down.

Harden: A very nice trip, yes. When you got to New Orleans, you became an assistant visiting pathologist at Charity Hospital. Was this a residency?

Kirschstein: No. You had to be called that in order to be able to do autopsies within the hospital. I was also probably an instructor.

Harden: You were an instructor of pathology at Tulane.

Kirschstein: I did a lot of teaching, did autopsies, and taught residents.

Harden: So you were doing autopsies, you were teaching, but you were also a trainee of the National Heart Institute.

Kirschstein: Yes, I was a trainee in the National Heart Institute. Dr. Burch was interested in studying valvular heart disease from autopsied hearts, and I analyzed a number of such hearts for him.

Harden: This brings us, then, to your first paper. First, I wanted to ask about the co-author of that paper.

Kirschstein: Yes.

Harden: Was he a colleague?

Kirschstein: No. He was a trainee. He was actually a resident. His name was Herschel Sidransky, and I was assigned to teach him how to do his first autopsy. This was his first autopsy.

Harden: The subject of your paper is what you found in this first autopsy?

Kirschstein: The first autopsy.

Harden: How interesting.

Kirschstein: Herschel had graduated from Tulane probably in 1953, I would guess, and he had done an internship. He had done research, while he was in medical school, in nutrition and probably in the Pathology department with a man named Emanuel Farber , who had gone to Tulane after I graduated. Herschel was from Florida. The state of Florida did not have a medical school at the time Herschel attended school. When I went to Tulane, the state of Mississippi did not have a medical school, and Mississippi paid the tuition and stipend of any medical student at Tulane or LSU, who would agree to come back and practice for 10 years in a town of less than about 10,000. The state of Florida partly paid for Herschel, but he had been in the Pacific during the war, and so had probably gone to medical school a little later. He is not very much younger than we are. He has had a very illustrious career. He is the chair of pathology at George Washington Medical School and has been for a number of years. We are very close personal friends with his whole family.

Harden: This first paper intrigued me. I think there are two things that I want you to talk about. The thing that intrigued me was that this was at the height of what you might call the casual use of antibiotics to treat infections, and they had apparently thrown the book at this patient with penicillin, streptomycin, tetracycline, and

corticotropin, the steroid.

Kirschstein: And he ended up with thisí

Harden: With this fungus.

Kirschstein: ...fungal disease, Aspergillus, endocarditis.

Harden: Right. So what I want you to do is take us through it. When you opened him up, here was this thing.

Kirschstein: We had no idea what it was. It was this big mass, and we really did not know. We suspected that it was not a tumor. It did not look like a tumor. It was obviously some sort of endocarditis, and we took some material for all sorts of cultures, and then we began dissecting it. Of course, the slides came back before the cultures, and Aspergillus was just as clear as could be. It has a very characteristic look. It was probably one of the very first cases of fungal endocarditis that anybody had seen, but it took a long time to work the whole thing up because we wanted to get the cultures and all the other evidence, and we both got very busy. Actually, I did not write the paper until we got here. I began writing it while I was home waiting for the baby to be born. Then we sent the paper back and forth and finally got it published. I cannot remember the date of the publication.

Harden: Fifty-seven, I think.

Kirschstein: Yes. So it was late by that time. Herschel stayed in New Orleans

another year, and then came here to the National Cancer Institute for several years, working in Building 6.

Harden: But you did not collaborate with him then?

Kirschstein: I did not, but he and Al worked together. I was into other things. He left NCI, went to the University of Pittsburgh, where Emanuel Farber became the chair of pathology and had a very distinguished research career there. He left thereô I cannot remember whenô to become the chair of pathology at the new medical school in Florida, the University of South Florida, and then came back to George Washington. We kept in touch and we have been close ever since.

Harden: Now, you said you were teaching him to do autopsies at this point. Was that a part of your Heart Institute grant?

Kirschstein: No. The fellowship was for the specific purpose of doing the analysis of heartsô it was pure accident that this happened to be heartô for what Dr. Burch was interested in. As part of the scholarly activities, the rest of my duties in the pathology department of Tulane were to teach new residents to do autopsies and to do surgical pathology, and to teach medical students. Whether you could get away with that now, I do not know, but there was a lot of much more scholarly activity.

Harden: But, once again, this shows the serendipitous path of research.

Kirschstein: It really did.

Harden: You were working on one thing and found something else.

Kirschstein: Right.

Hannaway: We just would like to get you to Bethesda before we finish today.

You have already mentioned that you came and then you had a premature baby. One thing that I do not think that you finished talking about was the tuberculosis infection that you discovered when you came here.

Kirschstein: It was right after the baby was born and actually had come home from the hospital, and when I was to start my last year of residency here in clinical pathology. At that time every new employee was given a physical exam and the X-rays were done by the Clinical Center Radiology Department, which had a quality of radiography that was probably better than any other place in the world. Here was this mother of a baby (which now weighed maybe six pounds and seemed fine) who went for this X-ray. Then they called me back and they did three or four more X-rays and so forth. There was a lesion in the upper lobe of my right lung. So the infectious disease people looked at it. There is a story that goes with this. I should go back. In New Orleans, while we were medical students, the internal medicine department decided that before we would start our clinical studies, those of us who were tuberculin skin test

negative should get BCG vaccine. What they did was they tested everybody, and they did not give the vaccine to those who were already skin-test positive. Those of us who were negative I had grown up in New York City, traveling the subways like crazy, but my parents kept me pretty isolated, I guess, and I was skin-test negative. There may have been 10 or 12 of us in the class. All of them converted on BCG except me. They gave me a second dose, and I did not convert. They gave up. So the first thing they did at the NIH was to test me, and I was positive. So they said, "This is a lesion that you must have had for a while. Let's get the films." So we got films from my days at Kings County, we got films from Detroit, and, sure enough, it had been missed for three or four years. So then they sent me to the preeminent tuberculologist or phthisiologist in Washington, Saul Katz, who was at the V.A. and who had an office in addition down on Connecticut Avenue. He said, "This looks like a quiet lesion. We will just take X-rays every six months to make sure everything is fine." Three years later, the lesion developed a cavity. So, at that point, they put me on INH and PAS for three months, took it out, and then I stayed on the drugs for a year afterward. The baby stayed TB skin-test negative and has been so to this day.

Hannaway: That is an amazing story. Did you live on the campus when you first came?

Kirschstein: No. When we first came, we lived on Battery Lane. There was one set of apartment houses there. Now there are four. But we lived there. It was close, and we were able to get back and forth quite easily.

Harden: You have been here ever since, and I know you live in the houses on campus now. Did you stay in that area?

Kirschstein: We stayed on Battery Lane from 1955 to 1960. Then we moved into the NIH apartment house because there had been a bad winter in which they had been unable to get a pathologist for some emergency that they had, and they told Al that if he wanted an NIH apartment, he could have one. Except we said we would only take it if it was a two-bedroom apartment. With one child, the NIH would not ordinarily give you two bedrooms, but they did, in this instance, because they needed Al. They only had five two-bedroom apartments in the whole place. Then, in 1967, we moved into one house on the campus, and then we moved into the house we are in now later. The houses, when we moved into them, were not renovated and not air conditioned, and they gradually did a round robin. When they wanted to renovate ours, we moved out into the house that was air conditioned just up the hill.

Harden: So, just like many other NIHers, you have spent your entire work life focused on NIH.

Kirschstein: Absolutely. We knew the minute we came, we never wanted to leave.

Harden: Would you talk about being a new mother, and then about your lives as new scientists at NIH after that? What kind of social life did you have? How did you manage all this?

Kirschstein: The first thing was that, because my baby was premature, he stayed in the hospital for a month. When I brought him home, I probably could not have worked. Our pediatrician, who was wonderful, told me that newborn premature babies like to sleep more than they like to eat, and they need to eat. So I had to feed him every two hours around the clock for something like two months, then every three hours, and so forth. But, by Thanksgiving, basically, it was clear that by the beginning of January, I would be able to go back to work, and we looked for somebody to take care of him. We were extremely fortunate. I think people were more fortunate back in 1956 and 1957. We found a wonderful woman, an African-American, who had a music degree from the University of Michigan. Her husband had been a professor and she sang. When he died, she took a practical nursing degree so she could make a living for herself, and she agreed to

come. She came by two buses every morning at eight o'clock and stayed until six o'clock in the evening for five years.

Harden: You were very lucky.

Kirschstein: But not on Saturday and Sunday. She did nothing but take care of the baby, feed him, play with him, nurture him, clothe him, and bathe him. I cannot say enough about her.

Harden: Now, I am going to ask a very politically pointed question here, and you can answer it any way you want. Has anybody ever tried to make you feel bad that you did not stay home all those years with the baby? And how do you answer them?

Kirschstein: If anyone did (there were probably one or two) it was not anything that I took as of any significance. My husband was happy with the situation. Without him, I could not have done all this. He knew that I would not be happy staying home. He knew my mother had taught. His mother had worked in one way or another, and, as well as taking care of him, she took care of the store. There was never any question about it. Now, in the early years, I did not take on a lot of extra responsibility. So when I went home in the evening, except for when I studied for my Boards, I spent a lot of time with that child. At sometimes stayed late at work, but I would go home and take care of the child. And we both spent weekends with him. We took him everywhere. We went to Europe, when he was four,

and took him with us. We never went anywhere, basically, without him. So it was work and the child, and that was it.

Hannaway: Just like your father who took you everywhere.

Kirschstein: Yes. But our child had both parents to take him places.

Hannaway: Yes.

Kirschstein: And my parents came down. Alø's mother came up a couple of times. Then she got too sick and she could not come. We would go down to Florida every Christmas to be with her so that he would see her. Since I had never had any grandparents, I wanted my child to have whatever advantages he could have from grandparents. That was the way we did things. We did not do much going out. We did not do any of the things we do now because that was our life, circling around work and our child.

Harden: Tell me about the scientific couples on campus.

Kirschstein: Well, before we had the house, the apartment house that we lived in on Battery Lane had a lot of young two-year people in it. One was in the Eye Institute, one was in the Cancer Institute, and one was Daniel Nathans, the Nobel laureate, who we got to know very well.

Hannaway: I know Dr. Nathans from my time at Hopkins.

Kirschstein: He left us and went to Rockefeller. We did not maintain a close friendship, but we maintained a little bit [of contact]. I was

Director of NIGMS when Dan won the Nobel Prize. That spring, I called him up. We always had public witnesses for the appropriation hearings. He had been supported by NIGMS. I called him up and I said, "Dan, would you testify for NIGMS?" He said, "Ruth, I am so busy, they want me everywhere," they this, they that, the other thing, and he made several excuses. I finally said, "Okay, Dan, I understand," and I hung up. Within three minutes the phone rang, and it was he. He said, "Ruth, you are right. If I am ever going to have any impact, it is this year. I will do it." He is a wonderful human being. We did occasionally exchange babysitting, so I would go sit for somebody or other, and we had outdoor picnics and so forth. When we lived in the apartment house here, Al and I did not particularly have many close relationships with people from the quarters. We did get to know Herb and Celia Tabor, because they had children who were of an age to babysit with Arnold. They have probably been our closest friends ever since.

Harden: Was the NIH a special place for couples to be able to come?

Kirschstein: Yes.

Harden: I know it has been very hard at universities for couples on occasion.

Kirschstein: The NIH is a special place. Dr. Stetten used to talk about it. Dr.

Stetten used to say that the government does not pay very much, and some day the only way we are going to be able to have scientists here is if they are two-income scientific families. Hans, of course, had a very special feeling because of Marney. He understood this full well.

Hannaway: You said that very shortly or soon after you arrived here, you decided this was where you wanted to stay.

Kirschstein: Yes.

Hannaway: What gave you that sense? Was it the environment or the people?

Kirschstein: There were several things. I was thinking about this last night. Actually, I was not thinking about this, but Al reminded me. During Al's residency in pathology at University Hospital in New York, his closest mentor was a man named Adolph Hochwald, who was a Czech who came to the United States when the Nazis marched into Czechoslovakia. He was a bachelor, and he took both of us under his wing. He had a car, and in the spring of 1952, he drove us to Washington. He drove us over here to see the NIH. We stood in front of a building that had National Cancer Institute on it, Building 6, and Al had done some research during that time. Adolph had been a relatively outstanding pathologist in Czechoslovakia, and he decided that we should come here, and so we did. Adolph had a friend, who was actually another Czech,

who was in the clinical pathology department in the Clinical Center, when I went there, George Brecher, who was a famous hematologist, pathologist. They just were good people and we loved everything we did. We knew there was something special about this place.

Harden: Now, let us talk about what you did. In the Clinical Center, you were a resident in clinical pathology. Was this a civil service position?

Kirschstein: It was a civil service position. As a resident, one could have been a commissioned officer or a temporary civil servant employee, like the staff fellows today. Because I only had one year to go, they were not going to appoint me as a commissioned officer because they did not have a permanent job to offer me.

Harden: Right.

Kirschstein: Al came and started in July of 1955, when I was pregnant. He did a last year of pathology for his Boards and went to the Path Anatomy Group, which was actually in the Cancer Institute under Harold Stewart, òRedö Stewart, who just died recently. But Al did research along with doing his residency.

Harden: But he did not come as any kind of a clinical or research associate?

Kirschstein: No,

Harden: It was a straight residency?

Kirschstein: Yes. He came, still, in the Commissioned Corps. I came as a civil servant for a year's period from January 1956 through December 30, 1956.

Harden: Did you get into the Corps? I could not remember if you were ever in it or not.

Kirschstein: We decided that, since all the medical benefits and so forth accrued to him, there was no reason for me to be in the Corps, and it would give me more flexibility not to be commissioned. I fully had the intention of going out and doing pathology in one of the local hospitals, except that when I finished in December and wrote all of them, there were no jobs. So that is when I found the next job.

Harden: Was there anything different about being a resident in clinical pathology at the Clinical Center than there had been in your earlier residency positions?

Kirschstein: Yes. There were a lot of things that were different. First of all, the whole tone was that of a research hospital. George Brecher was teaching residents to do hematologic research on unusual patient material. We saw leukemias and lymphomas and all sorts of rare diseases. Second, George Brecher was working with a man named Charles Coulter, who developed the Coulter counter.

Harden: Yes.

Kirschstein: What we used to do, all of his technicians and residents, was load the chamber to count red blood cells or white blood cells, two separate things. We would count them by hand, we would photograph them we would count them by the photo, and then compare them with what was happening in the Coulter counter. So we validated the Coulter counter during that year, which was really terrific. And Mr. Coulter was a wonderful man. Then, in microbiology, we had an Australian microbiologist who was doing some work on new media and new methodology for diagnosis of mycobacteria. There were also all the patients with all sorts of interesting parasitologic diseases. Clinical chemistry was developing automated methods. George Williams was a great proponent of automated methods. So it really was a different hospital. I would go up on the wards with the research associates. I stood by Tom Waldmann when he did his bone marrows, for example. And then Mortimer Lipsett was here with Roy Hertz. We saw the first patients being treated and cured of choriocarcinoma by methotrexate. It was marvelous.

Harden: Is there anybody else who stands out among either the senior or other junior people?

Kirschstein: There was Frei and Freireich. I guess Vince DeVita came later. There were lots of people. Bob Berliner was still scientific director

of the Heart Institute, and I used to go up and listen to him do kidney rounds [and] the great rheumatologist that they named the room after, Dr. Bunim.

Harden: Bunim, right.

Kirschstein: Leon Sokolov was his pathologist.

Harden: Now, the one person you have not mentioned isí

Kirschstein: Harold Stewart?

Harden: We will get to him. No, it is Jim Shannon over here in Building 1.

Kirschstein: I never saw him in those days. Not until I got into polio did I ever see Jim Shannon.

Harden: I have two more questions, and then we will stop for today. We understand that in 1957, when you had become Board certified in both anatomic and clinical pathology, you got your new job, but you had to fight to get the grade you qualified for. Would you tell us that story?

Kirschstein: First of all, I took a flyer on taking my Boards. I had a three-year-old at home. The Boards were being given here in Washington that year, and I used to studyô I have a marvelous picture of my son with Anderson's pathology book open like this at age two, or whatever he was, three.

Hannaway: He was your study assistant.

Kirschstein: Yes. I just took a flyer because I did not want to have to go out of

town to take the Boards. If I had not passed them, I would have taken them again, but I did pass. As you said, Shannon was here, but the scientific director was Joe Smadel, who was an old curmudgeon. He had worked at Walter Reed and he had a very big military mentality. So I applied for the job to do the polio pathology. It was being done through the Arthritis Institute at the time. There were three pathology units. One was run by Ralph Lilly, who was the only pathologist at NIH for years and years, and he had people working with him, and one of them was doing the polio pathology. Then there was the Cancer Institute with Harold Stewart, and there was the Clinical Center clinical pathology with George Williams. So I applied to do the polio pathology. I actually filled out the application and got a rating from the Civil Service Commission, which was a GS-13/14. That meant that I was eligible for either one, and NIH requested that I be appointed as a 13. Meanwhile, not knowing whether I was going to get anything here or not, I had gone up to Fort Detrick to look for a job, and the Army was willing to take me to do pathology. That would have been a 40-mile drive each way, and I really was not interested. But that job was sewed up, and I do not know that I can recall what the grade was going to be. And Lou Ashburn said that Joe Smadel said, "No goddamn female pathologist is going to get a GS-13 for

her first job.ö I looked at Lou and I said, öWell, you tell him
noöô I did not use the swear wordsô öfemale pathologist will
work for him, and I will go somewhere else,ö and he gave in.

Harden: I do not know if it was your father or your mother, but somebody
certainly gave you courage.

Kirschstein: It was my mother. She was a very brave woman.

Harden: All right.

Kirschstein: On the other hand, you did some of that with trepidation. It took
every ounce of courage to say that. If I had not had the other job
offer, I probably would not have done it.

Hannaway: But you were willing to try.

Kirschstein: I was willing to try. And Al stood by me.

Harden: We are about at the end. To close this first session, I wonder if
there is anything else that you want to say with respect to your
early life or the factors that influenced your decision to stay at the
NIH.

Kirschstein: The whole thing here has been a team effort. We moved from
Brooklyn to Atlanta to Detroit to Ann Arbor to New Orleans to
here, so that was six times iní

Hannaway: Three years, was it?

Kirschstein: Four years. We really did not want to move again, we just loved it
here. Al was happy, and I was determined I was going to find

something that would make me happy. I did not know whether it would. We can talk about that next time. It has been an absolutely glorious life. It could not be better.

Harden: Very good. Thank you. We will stop here.