

Dr. Ruth L. Kirschstein Oral History 1999 D

This is the fourth interview in an oral history with Dr. Ruth Kirschstein, the deputy director of the National Institutes of Health. Today is January 12, 1999, and we are in Dr. Kirschstein's office in Building 1. The interviewers are Dr. Victoria Harden and Dr. Caroline Hannaway.

Harden: Dr. Kirschstein, in our last two interviews, we focused on your personal career. And as you noted in the first interview, when you first got to NIH in the 1950s, you had few reasons to interact with administrators here in Building 1. But by the end of the 1960s, you were doubtless aware of policy considerations, and especially those connected with Dr. [James] Shannon's retirement in 1968 and the calls that were coming in the press and in the Congress for more targeted research. Would you comment on your memories about biomedical research policy in the late 1960s and what the issues were?

Kirschstein: The ones you talk about—the need for more targeted research—I was not enormously aware of. My major interactions with the people working in the Office of the Director were related to the vaccine issues through the Division of Biologic Standards and public health issues primarily. My boss, Dr. Ron Murray, was somewhat beginning to be out of favor at NIH. Vaccines were always a difficult problem. We had gone through the polio [vaccine incident], we'd gone through some of the other issues, and so I knew things from the public health point of view. Now, if you equate more targeted research with research that would bring public health to bear, yes, I did know some of that.

The other thing that, of course, happened was that we came to a period—which I learned more about when I became director of NIGMS, but I knew sort of generally—related to the fact that the Congress was beginning to be less—the Congress was beginning to be more interested than ever in NIH, whereas the new administration, with the inauguration of Richard Nixon, was less interested in research. And indeed, I think many of us began to feel, by 1969 and 1970, that there was pervasive, not only through the Administration, but through perhaps the country to some extent, an anti-science feeling. This became most manifest when Nixon, in either the late part of his first term or the very early part of his second term, very deeply cut the NIH budget, not by the maneuver of proposing a reduced budget, but by impoundment of funds, where he got an impoundment, which meant you couldn't spend them if they were there, of funds, and the only way those could be released was if the Congress overturned—and I think it was by two-thirds, as I recall; I don't absolutely remember. And that was a general downturn for people here at NIH, and so there was not a lot of optimism about things for quite some time.

Hannaway: NIH also was not exempt from the political differences surrounding the Vietnam War. Jane Fonda and also Dr. Spock visited the campus, I understand, and someone suggested that there was an underground antiwar newspaper [see Rainbow Sign newsletters in the Stetten Museum collection]. What do you remember about NIH and the Vietnam War?

Kirschstein: I don't know whether there was an underground anti-Vietnam newspaper or not. I don't

remember Jane Fonda's visit. I do remember Dr. Spock's visit. And I remember, even more than that, a rally here on the front lawn of Building 1, with Pete Seeger and Woody Guthrie—maybe not Woody Guthrie, Woody Guthrie, Jr. maybe. I don't remember.

Hannaway: Arlo Guthrie.

Kirschstein: Arlo Guthrie, yes—singing in an anti-Vietnam War rally. And that undoubtedly had at least some relationship to the anti-science effect. I also joined my husband and my son—and I don't remember what year that was—and did the March On Washington and walked to the Washington Monument for the general antiwar movement. I think it was very pervasive. Almost no scientists could really understand or agree to that war, and these were the same people, such as myself and others who had, of course, rallied around enormously in World War II, probably less interested in the Korean War, though I remember it very, very clearly because it was declared—not declared—it was announced by Harry Truman about five days after I got married, and so it was June of 1950. But it [the Vietnam War] was really a very, very tense time, and it was not a happy time for anybody. We all had friends whose young people had been arrested in one form or another. There was a herding of young high school and college students into one of the barracks downtown because they had demonstrated a little too forcibly, and I think the District police, as I remember, rounded them up, and I had friends whose kids were involved in that. My son at that point was a little bit young, but I remember thinking about, seriously, what we would do if, when he got to draft age and he wouldn't go, which I'm sure he wouldn't have, and I had friends whose kids moved to Canada. It was a very tense time, and I think scientists really thought it was a bad business.

Harden: May I follow up and ask if there was anything official? Was there any kind of policy or statements for or against activities at NIH coming from the Department [of Health, Education, and Welfare] or the White House?

Kirschstein: Not to my memory in terms of activities at NIH. I think there were statements about the government as a whole. It was also a very interesting thing. You may think that there never was politics going on at NIH, and I don't know whether anybody else in your oral histories that you have taken has talked to you about some of the things that happened with people who were not appointed to study sections as a result of [others] being convinced, Dr. Shannon being personally convinced, that they were communists. Have you ever heard?

Harden: Yes, I've heard the stories. I did not realize that it was Dr. Shannon himself.

Kirschstein: Shannon and others, but particularly Dr. Shannon. A lot of that came out when Elvin [A.] Kabat decided he was going to, under the Freedom of Information Act, demand his records, because he was one of [them], as was Salvador Luria, Nobel Prize winner, and there were a few others. So there were lots of things going on. NIH has always been to some extent involved in the politics, although we

like to think we're pristine.

Hannaway: Was this a particular bias of Dr. Shannon's?

Kirschstein: I think he was just generally a person who did not believe that you should mix these things, number one. And it wasn't that he was Republican or Democrat. His best friends were the Democrats on the Hill, as you well know, [redacted] Hill and John Fogarty and so forth and so on. So I don't think it was that. I think he probably was as staunch an anti-communist as one could find, but so were lots of other people.

The only thing that I think really bothered many of us was we heard about it in retrospect—and I did not know any of that. I was in a residency program in Detroit during the McCarthy hearings. I remember spending all my time watching [television], thinking that this whole government is going to stop and we're all going to be watching the television set again as we did then [during the McCarthy hearings] and as we did in 1972, 1973, 1974. But, no, I think he [Shannon] was just very protective of NIH and would undoubtedly want to be sure that nothing happened as a result.

Hannaway: So this was primarily people from outside who were...

Kirschstein: Well, yes. I don't know that people from inside would have dared say anything, but, you know, there were a lot of people who really were very liberal who were not communists, but everybody—Joe McCarthy painted his brush very broadly along the way, and the House Anti-American Activities Committee perhaps equally so.

Harden: Well, the political fallout, I suppose, that was most obvious at this time were with Drs. Robert Marston and Robert Stone, the two directors who succeeded Dr. Shannon, and it was a hard act to follow, as they say, to succeed Shannon. But Marston's trouble, if I recall, started with the issue of separating NCI from NIH, and Dr. Stone's problem was that he was co-opted by the biomedical research community when he was sent out here to tame the loose cannons. You want to talk about all this?

Kirschstein: Yeah. That I knew a lot about, probably more because Dr. Marston and Dr. Berliner lived in the two large houses at the top of the hill, one in one and one in the other, and they were very, very—and their wives were very, very close friends, and they became good friends with all the neighbors, and I lived down the hill. In fact, Dr. Marston had a son who delivered the newspapers, and when the weather was bad, he would deliver them for him.

Dr. Shannon left because it was time for him to retire. He did not leave under any sort of pressure that I know about. And I don't know how people found directors in those days. They certainly didn't have a search. If they did, none of us knew it. And I remember Dr. Marston coming to the door and saying, "I'm it. They picked me," and we were delighted. And it was as a result of what they did to the budget that

Dr. Marston stood out here, too, and spoke to the “troops,” the NIH people, and told them that he did not approve of the impoundment of the funds, and he thought it was illegal, and he was asked to step down. I don’t know all the negotiations; I don’t know all the dealings. And he left, and he’s had a very successful career since, though he’s quite ill now, I hear.

Harden: His wife just died recently.

Kirschstein: His wife just died, yes. And Bob Berliner, indeed, left and went to Yale immediately as the dean—angry and so forth.

The most interesting thing was who replaced him, and it was Dr. Robert Stone. Now, Dr. Robert Stone and my husband were classmates at medical school, and they both went into pathology. And Dr. Stone ended up being at California for a long time and then went to the University of New Mexico, where he was chair of the Pathology Department and probably in the front office a little bit, and went, because he was interested, to the Sloan School of Management at, I think, MIT and took a course. So when the Nixon Administration was looking for some director who could contain those people who wanted everything, and so forth and so on, and who was Republican, and he was, they found Dr. Robert Stone. And probably the only two people in the entire NIH who knew who Dr. Robert Stone was were my husband and me. I had met him through Al. And who is this man? He’s never been around. Marston had been here, had been in administrative jobs here. He headed the Regional Medical Program and became HRSA, and so forth and so on. And so there was a great deal of skepticism, a great deal of, if the Nixon Administration is putting him in, there must be something wrong.

And he got here. He’s basically a shy man. He loved the western area where he lived. And he had to learn about NIH. We spent some time teaching him, and other people did, and he moved in and sat over in that office. And he did something very wise. He decided he needed a good scientist who would help him understand NIH, who had been at NIH for many, many, many years, had left for a while, been a dean of a medical school, and come back to be the director of the National Institute of General Medical Sciences. So he asked—and he, too, lived on the grounds—he asked Dr. [DeWitt] Stetten if he would give up being the director of the National Institute of General Medical Sciences and become the deputy director for science. And Dr. Stetten, who really loved science philosophy anyway, and who was probably finding it increasingly difficult to manage an institute with lots of grant portfolios and so forth and so on, accepted the job.

Dr. Stone, too, did some very, some other very, very fine things. He had lived in New Mexico, where he had seen that the diversity of the population of people was rather different than on the East Coast in jobs of prominence, and he looked around NIH and he didn’t see anybody who was anything but WASP [White Anglo-Saxon Protestant], and he immediately hired a Hispanic secretary, **Bel Ceja**, who was probably the finest person around, just marvelous, and set a wonderful tone. Bel stayed on with Dr. Fredrickson and then left with him to go to the Howard Hughes and then retired.

And Stone surprised people in many ways because although he came, as you said, to make sure we were managed very tightly and carefully, and he did a little bit of that, he also understood and began to listen to Dr. Stetten, to the science, and realized how important what we were doing was, and he began to

express himself very openly about it. And one day he was asked to leave, but not before he did one other thing in the diversity realm, and that is, he appointed the first woman director of an institute [which was Kirschstein herself to NIGMS].

But he then spent, I think, about a year in the National Library of Medicine. All directors who get moved out and don't have jobs to go to are given a corral in the National Library of Medicine where they can write their memoirs and several other things. He then moved on to the University of Oregon, where he became the dean. I visited him there and gave some talks. He moved to Texas, where he still is, if I'm not mistaken. His young daughter, who went to medical school and is a neuroscience researcher, is somewhere here in the Neurological Diseases Institute. I haven't looked recently. She certainly was for a while, and he used to visit her. And since I haven't seen him recently, it is possible that she has left. I don't know.

Hannaway: With respect to policy issues, you've already talked, in answer to the previous question, about some of this. But are there any other particular aspects of the administrations of Drs. Marston and Stone that you thought were important and that we haven't just discussed or discussed previously?

Kirschstein: I think Dr. Marston, having been director of the Regional Medical Programs, probably did, just because of his own natural bent, emphasize perhaps more than Dr. Shannon had and perhaps more than some people up the line, some importance of bringing the fruits of NIH research to the people, to the regions. But he never faltered in being a great supporter of research. I think there was no question that Dr. Marston, who had a wonderful presence and gave beautiful speeches, did a lot of traveling around the country as the director and left the day-to-day operations to Dr. Berliner.

And there was a difference between what the deputy director of intramural [research] does today and what Dr. Berliner, as the deputy director for science (which is what he was called and Dr. Stetten was also called—it got changed later) did, because they concerned themselves, and Dr. Berliner in particular concerned himself, with the quality of the science that NIH supported. So Dr. Berliner's hand was not just in the intramural program, but he watched the portfolios of the institutes to some extent, and he was very deeply involved in the affairs, at that time, of the Division of Research Grants.

Hannaway: And he could make recommendations and...

Kirschstein: He could make recommendations, and whatever Dr. Berliner wanted, Dr. Marston did. He had enormous respect for him. And that's when I became more involved in 1971 or 1972, and there was a scandal related to the then Division of Biologic Standards. Somebody said we had done something bad with flu vaccine and so forth, and it was clear that there was a desire to separate the regulatory aspects of things from the NIH mission of science, and it was Berliner who wanted that to happen. And we had meetings about it, and it came about [the responsibility for regulating biologics was given to FDA in 1972]. And when I went to Berliner, whom I knew extremely well and had enormous regard for, and said that there were a group of scientists who would like to stay with the NIH and do the kind of research they had been doing and not move to the FDA, would he accept them and put them in

appropriate institutes, most of which would have been the National Institute of Allergy and Infectious Diseases, he said no. He said he did not want to do that. These were people who were also regulatory, and he thought everybody should go to FDA, so we did.

Hannaway: So he was the one behind that.

Kirschstein: Yes.

Harden: That's very interesting.

Hannaway: Yes. We didn't know that.

Kirschstein: If he had said yes, I think Marston would have done it. First of all, Dr. Shannon ran the place completely himself; Bo Miter was his scientific deputy director for science. Bo had been in the Cancer Institute, and Shannon listened to him, they were very close, but he did what he wanted. Marston and Berliner were not only close personal friends, but they were scientific colleagues, and in some ways one could probably say they were co-directors of NIH. Marston did the outside stuff and Berliner did the inside things, and so I don't think Marston would have done anything that Berliner had not approved of and vice versa.

Harden: But that whole issue of whether or not to have a regulatory function, it's quite clear that regulatory agencies are just sitting ducks for political interference.

Kirschstein: Yes, and that's what he was worried about.

Harden: And if he could move that out, that would protect the agency.

Kirschstein: Well, that's interesting, because in the years from 1902 until 1972 approximately, that had been true. Shannon had weathered the polio storm. There had been pertussis storms, and there was no reason to think that there would really be a lot of trouble, but he sort of played it safe if you will. He probably was right. I don't think so. I was convinced at the time that it was going to be the demise of any research that Biologics would do as it moved to FDA, and I predicted that in 10 years it would be purely regulatory. I was wrong. It only took almost 30.

Harden: I was going to say, this is what's happening now.

Kirschstein: Exactly.

Hannaway: You were prescient.

Kirschstein: I was prescient, but I wasn't timely.

Harden: Well, the irony is, too, that scientists may comment, but in the early part of the century, 1902 to 1930, the regulatory function, the fact that the NIH Hygienic Lab had it to do, protected the scientists.

Kirschstein: Absolutely.

Harden: There was a practical application out here.

Kirschstein: Absolutely. And, of course, to think it's not always been political... Look at the trouble that [Joseph] Goldberger got into by just saying that this [pellegra] was not an infectious disease [in 1915]. Nobody ever heard of that.

Harden: Absolutely.

Kirschstein: He almost got fired.

Harden: I'm sorry. To jump just a little bit ahead of ourselves chronologically, I want to move to finish up the political part of these general questions and come to Don Fredrickson's administration. And things sort of finally stabilized. I mean, I got the impression from various things I have read that things were quite upset after the Marston and Stone incidents out here.

Kirschstein: Mm-hmm.

Harden: Very unsettled. And Fredrickson seemed to bring sort of a stabilizing influence.

Kirschstein: He did. And that was very carefully planned. Toward the end of the Nixon Administration and just before Gerald Ford took over, the director of the National Heart, Lung, and Blood Institute was Dr. Ted [Theodore] Cooper. And Ted Cooper was asked to go down to be the assistant secretary for

health. And Ted and Don had known each other in the Heart Institute, and Ted saw this enormous instability. Don had followed Ted as director of the Heart Institute for a year and then left and went down to the IOM [Institute of Medicine] to be director or executive director or president, or whatever, for not very long—I can't remember, a year or two. And Ted realized that he needed somebody who knew NIH intimately, who was a remarkable scientist, clinical as well, and thought about it. And I remember on a beautiful spring day, Al and I being out walking on the campus, which in the spring is as beautiful as it can be, before all the construction. And Ted lived on the grounds, too, as assistant secretary for health. He lived first in a small house when he was director of the Heart, Lung, and Blood Institute, and then when he became assistant secretary for health, he wanted to move up, and he moved into the house that now the surgeon general occupies. And there was Don on his bicycle, sort of going slowly, and Ted walking beside him, in deep conversation. I don't think they even saw the two of us. And I looked at Al and he looked at me, and we said, "There's the next director of NIH," and it happened. And Ted really played the major role in that. And it was 1973, so he had to be confirmed, but nobody raised a big fuss. And Don brought back to NIH a civility, an understanding, a deep conviction about science, but also something you talked about before: the need to realize that we were giving to the American people ways of handling disease.

It was an era that started with having agencies, a predecessor of the agency for health, AHCP, or Health Care Research and Policy, and there was an organization whose name I can't remember now, that was actually set up separately, and the question was, would it be part of NIH? Fitzhugh Mullen was in charge of it, and I can't remember the name of the organization. Medical Application, something like that.

Harden: I know what you're talking about. It'll come to me.

Kirschstein: Yes. And so Don, to stave off having that organization as part of NIH, which he did not want—he thought it would subvert it completely—decided we needed something else and set up the Office of Medical Applications of Research and the Consensus Development Exercises. And he did that to show that NIH really didn't just sit in a little ivory tower or cocoon, but indeed did understand that there were people out there who could and must benefit by the research. And Don had all the senators and congressmen, just before he left, he had them come down and take this marvelous picture [she shows to Harden and Hannaway]. And this is in the Capitol. This is the old Senate Appropriations Committee room. There's Don, Don Tower.

Hannaway: So the senators were on one side and the representatives on the other.

Kirschstein: And this is this most magnificent room.

Harden: Is it still used for the hearings?

Kirschstein: Well, not very often anymore. Before the Dirksen [Senate Office] Building was built. So he

had an enormous sense of history.

Harden: Yes.

Kirschstein: He had an enormous sense of history, did many, many things, and he did bring to us a feeling of involvement. He used his institute directors quite well. Many [NIH] directors did not. Shannon probably didn't pay attention except to a few of them. Stone never got to know his institute directors very well. I don't know about Marston. Don really faithfully had meetings, discussed issues, talked with us, prepared, and all of us really felt very, very highly of Don. He had this place decorated in the most unusual way. Were you here, Vicky?

Harden: No, not till the 1980s. I have heard stories.

Kirschstein: Don Fredrickson was married, is still married to, a wonderful woman from Holland who has eclectic taste and loves overstuffed red couches, which his office was full of. A table is not meant to be written on; a table is meant to have an Oriental rug on top of it, and then you write on it; and the office had a whole series of little Dutch chairs this big. And very often Don would have meetings of his institute directors in that office, and there was room on the couches and maybe a couple of chairs around, and if you got there late, you had to sit on those little chairs for two hours. So everybody would break their necks to get over here to, in one way or another, not have to sit on the little chairs. But Don had a great flair. He was a consummate speaker. I'm very fond of Don. He was wonderful.

Harden: Yes. We have collections of his slides that are just creative, and his speeches—you can always recognize a Fredrickson speech. Let me put it that way.

Kirschstein: Don Fredrickson stayed till the early 1980s. He was very, very close to Joe [Joseph] Califano, who was the secretary of the Department [of Health, Education, and Welfare] at the time, and he did two things. The great contribution that I think Don will never be forgotten for was to realize the danger of policy and politics relative to recombinant DNA.

Harden: We're going to come back to that and walk you through it.

Kirschstein: And so he developed ways to handle that, and it really was a masterful stroke. The second thing was that he got Joe Califano to appreciate, and then the Congress, though it turned bad on us, the need for stability in terms of funding. And so he set the idea that we should be able to fund every year at least 5,000 new and competing grants. And he saw that as a way to keep increasing, as a floor so that you could build on it. In hard fiscal times, the Administration and the Congress saw it as a ceiling. If you had to reach 5,000 and you didn't have enough money, the way to do it is to cut each grant, and that's

what led to the downward negotiations that caused so much trouble for so long.

Harden: We would like to come back to that, too, in some more detail.

Hannaway: Well, we'll wind up these general questions as we planned. We wanted to ask you to comment on what you remember about the rapid expansion in the early 1970s of the molecular biological techniques that have proved to be so central to basic research ever since.

Kirschstein: Well, that's really where my institute comes in, because all of the start of that type of molecular biology, particularly the restriction enzymes developed by **him, Smith, and Danny Nathans**, the recombinant DNA activities, protein analysis, all of it, everything was supported primarily, not solely, by NIGMS. And Hans Stetten had started this going because he had this enormous vision, and the most important thing he did at NIGMS was to set up a program in genetics separate from a program in cell biology. They worked very closely together, but nevertheless... And it really took off from there. And Dr. Stetten understood the power of this, and so did everybody else, and, of course, the thing that made it all possible was that suddenly, out in San Francisco, at the University of California in San Francisco, was this really critical mass of people—**Herb Boyer, Bill Rutter, all those people, Goodin**—and they were doing this, and Herb Boyer went off and did something unthinkable in those days. He founded a private company, and the horror of this, and they were not going to be controlled. And the industry was going to be uncontrolled, and scientists were going to ruin the world, and so forth and so on. So Hans and Don together began realizing that they had to do something, and they put together this advisory group, the Recombinant DNA Advisory Committee, which was housed in NIGMS as a start, with **Bill Gartland**, and began having meetings, and then Don had his advisory council, and we had big open meetings with television cameras and public hearings and so forth and so on, and made it seem understandable to people. All the great things that happened immediately: insulin, recombinant insulin. It took them a while. Recombinant insulin didn't work quite like normal, natural-product insulin because something about the tail on the protein was a little bit different. And somebody had to figure out how to do that. So it wasn't just simple. And Don put together the guidelines. Everybody said they wanted regulations, they wanted laws, and he said no. And it was the famous meeting at Asilomar where they had, side by side, what everybody wanted, and it was really a great democratic process which worked extremely well.

Harden: Yes. And I'd like to get you to expand it even more because as I recall Wally[Wallace] Rowe and **Mel Martin** were doing the safety tests. I mean, this was the big question, of course: Is [recombinant DNA] safe, or would we unleash the Andromeda strain, whatever? And the scientists in the meetings were doing the best they could given the data they had, and the actual tests were being done, both biological containment and physical containment. And then the tensions within the NIH community, if you can talk about the tensions, because I know that Hans always wanted to trust the individual scientists and put as few regulations as possible. And Fredrickson had to go to the Congress and deal with the people who wanted to make laws against it. Can you expand on some of this?

Kirschstein: Yeah. And there were towns—Cambridge, Massachusetts, where Harvard University had rallies—and they were going to pass laws that you couldn't do any work in Cambridge. And so we sent people up to talk to them, and they were well known biologists, molecular biologists, up at Harvard who went out and joined them, and they convinced them after a while not to do this. There may have been even a law that was repealed. I think that's true, but I can't remember. The one who knows that in absolute detail is **Bernie Talbot**, because he was here with Hans. And **Phil Chen** probably doesn't remember as much of it. But Bernie actually did the side-by-side for Asilomar.

Harden: I'll have to talk to him.

Kirschstein: But Don had to fight off the Congress. Hans believed in as little regulation as possible, and it was Don who really came to if we can have guidelines. And he went to his friends, Maxine Singer, who was still here, and Paul Berg, who was at Stanford, and they mobilized a group of very well-known molecular biologists who wrote a famous letter that I think was published in *Science*, as I recall. And based on that, they brought all of them together with other people and had congressional staff listening so that they would be convinced that nobody was trying to pull a fast one, and they painstakingly wrote them [guidelines]. And they went through I don't know how many iterations. There was one that was very tough and one that was very loose, and that's when Bernie, working with them, they all went off to Asilomar where they holed up for a week or so and put it together in one way or another. And it's held up to the test of time ever since.

That was the start of the Recombinant DNA Advisory Committee, and people had to bring their experiments in, and if there was somebody who presumably didn't follow the guidelines, we had to investigate it. And I was on a number of investigating committees that looked into this, and sometimes you found it and sometimes you didn't. In general, scientists were really very good. And as time went on, it was clear that nothing terrible was going to happen. But we've maintained the regulations. They've moved into other things.

Bill Gartland was the director of the Office of Recombinant DNA Activity, which was in NIGMS, until it became clear to me that it was to some extent a conflict of interest to have the very grantees that NIGMS was supporting have to also deal with that group. And so it first was moved to NIAID under **Dick Krousy**, and then finally as a separate entity here under the Office of Science Policy, which is where it still is today.

Hannaway: We'd like to turn now to discussing more details of your career at the National Institute for General Medical Sciences, and we've already had the pleasure of hearing about how you became director of NIGMS, which was a wonderful story. Would you tell us, were you happy to be back from the FDA, and how would you compare the administrative structures of the two agencies?

Kirschstein: I was really very happy to be back. The year and a half at FDA was remarkable in a way because I learned a great deal. Now, Biologics had been a regulatory agency, but it was a flexible regulatory agency. It had the NIH backing, it did things based on the science. If it didn't write

regulations, it went ahead anyway, and that was its demise to some extent. We had lawsuit after lawsuit, and I never get rid of them. Even when I came back here as recently as 1991 or 1992, I spent four days in court in Baltimore.

But FDA was an enormous learning experience about bureaucracy, about people who got entrenched in their bureaucracy, and although there was a great deal of discussion that science should make the difference in terms of what you do about foods and what you do about drugs, let's leave biologics out because it was still sort of moving in. They fought the science people tooth and nail, and I was deputy associate commissioner for science and actually more or less acted as the associate commissioner because my boss was off for most of the year traveling and looking for another job, it turned out later. And I really took the job seriously. And I learned a great deal about problems with foods, problems with pesticides, problems with some drugs, and I probably learned how to run meetings in a way that I had never known before because I did a lot of that.

And I met a number of wonderful people. I met the chief lawyer for FDA, who really had great respect for science and to this day has remained a very close friend, Peter Bartonhut, and met a dean of a medical school who became the commissioner, Mac Schmidt, Alexander Schmidt, who really didn't quite know what to do and needed all of us to help him, but he was a wonderful man. But I had the feeling that the bureaucracy and the regulations and the fact that you couldn't really get the kind of support that was needed for science was going to overcome it all. And so I began to discuss with my family and myself and other people about coming back here, and you heard how I came back here, so I don't have to repeat that along the way.

Harden: But it was good to be back.

Kirschstein: It was wonderful. I really was very pleased to be back.

Harden: Now, you were taking over at NIGMS from Hans Stetten, whom you had known, along with his wife Marny, for some years, I presume. Now, since it's the Stetten Museum here who's doing the interview, could I ask you to divert for a minute and talk about Hans as a person, as a scientist, as an administrator, and Marny and their partnership?

Kirschstein: Hans was a remarkable person, and Marny was equally remarkable. I have no doubt that Marny was an equal scientist to him, and it was a partnership, but she was always cognizant in one way or another of his need to be in charge. She had not gone to Harvard. She had gone to Rutgers or the women's college of Rutgers, Douglas College, and they made a lovely team. They had wonderful children. And they were just wonderful people. They were nice neighbors. They were actually my next-door neighbors for a while. Before that, he had lived up in the big house.

Hans was a typical academician, and he was probably in the NIH setting, to which he came originally to be the scientific director of the then National Institute for Arthritis and Metabolic Diseases, and the first year that I was in Biologics, my lab had a dual appointment, my unit, to do the polio reading in his

institute and Biologics. I actually worked in Building 4. And so I got to know him then. But Hans always felt in those years, and used to talk about it a great deal, that NIH was not a complete, fulfilled institution because it did not have an academic base. It did not have a graduate school. And what he said fell primarily on deaf ears for a very long time. Lots of people would say, some of the most prominent scientists, "I came to NIH because I don't want to teach those students. I can get graduate students if I want to. I can get them from George Washington University, I can get them from Georgetown." And FAES had set up for Hopkins, which I think Hans was influential in doing. The Hopkins students would come over here and work on their theses but take their courses at Hopkins, and of course he knew all the people over there on the Homewood campus, and he knew the people in the medical school too. And he didn't succeed [at creating a graduate school at NIH], and it disappointed him terribly.

And so when the opportunity to start a new medical school came at Rutgers, with the tradition of Selman Waxman and his great friend, _____ Schlesinger, he grabbed it to be the dean. And he was so disappointed when the politics of New Jersey took over. It started as a two-year school. All the promises that they had made him were not fulfilled. It's an interesting place. My son is on the faculty of that school now. It's the Robert Wood Johnson Medical School. It's got ties to but is no longer Rutgers, and it is thriving. It is not in the Ivy League, it's not in the Big 10, it may not be in the Big 20, but it's doing very well and will probably be considered a fairly decent research place, not outstanding but very good. My son's very, very happy there.

And Hans was really crushed about it and realized he had made a mistake. His eyesight was failing. He had had a coronary [heart attack]. That's when he wrote that wonderful article about what it's like to lose your privacy and how you have to go to the bathroom with people around you and all. It's a marvelous article on what it was like to be a patient with a coronary, particularly if you're almost blind at the same time.

And so when the job as director of the National Institute of General Medical Sciences opened up, he grabbed it. And he came back and, frankly, made the same mistake I did for the first few weeks I was there. That was, there was an office in Building 31, but the entire staff was five and a half miles away in the Westwood Building. Now, Hans couldn't get to the Westwood Building easily, and he was probably already in some failing health. The problems of the loss of vision broke his heart. And so he became a scientific philosopher director. He set up the genetics program, he set up some other things. The staff came over and talked to him. But he spent most of his days thinking and talking to whoever would listen about science, and left, with all due respect, the day-to-day activities of running the place not so much to the scientific staff, but to the executive officer. In my view, that was—

Harden: That was Vincent Price?

Kirschstein: Vince Price was scientific staff. It was a man named Gordon Clovedahl, and Gordon used to drive Hans around. And Vincent and Charlie did his scientific, Charlie Miller, did his scientific, and Leo Von Euler. You didn't know about Leo, or do you?

Harden: No.

Kirschstein: Leo Von Euler, son of Ulf Von Euler, was also in the institute, and, indeed, Hans made him his deputy eventually. Leo was a Swede whose father and grandfather had won the Nobel Prize. Can you imagine what kind of pressure that puts on you? And so Leo had gone through a number of career activities and finally had come to the United States and was homesick and went back home, and came back and finished college, went to medical school, and then went into the Army because you could get your citizenship in nine months if you went into the Army during the Korean War. He ended up in Japan. When he came back, he met a wonderful New York woman whom he married, and he's been happily married to her ever since, and he came down to NIGMS, and he helped run the training programs.

Hans was particularly interested in the training. His desire to have graduate programs, and he didn't pay much attention to the grants, he didn't pay attention to the training grant program. He didn't pay any attention to the administrative aspects. And Vince and Leo and Charlie and a couple of others were very bright and did very well. The rest of the scientific staff was mediocre. And as they left, he didn't replace anybody.

When I got to NIGMS, it was very tough economic times for NIH, and I could see that this was an institute that was not growing. Others were. And, in fact, that first year, Mr. Clovedahl ragged me about the fact that I was going to have to get down there to the Congress and tell them why the year before, when I wasn't there, NIGMS had lapsed \$2 million that it had not spent and to this day I don't have the vaguest idea why it happened. I imagine it was because Hans didn't know, they didn't tell him, and it just sort of fell apart. And I realized that I wasn't going to let this institute go down in the drain and that I needed to get some good people, good scientists to help run it. And although Charlie and Vince were very good, they wanted to do things their way. In fact, Charlie said, "What's the first thing you're going to change?" when I walked in the door. And I started to say, "You," but I didn't. And I knew I had to get control of that place, and they weren't going to make decisions in the men's room, which is what Gordon Clovedahl told me they were going to do.

And I put them all somewhere, and then I began to hire, and I hired within two months nine terrific young scientists because there were nine vacancies. I don't know what I would have done if there hadn't been those vacancies, because it changed the whole tenor of the place. And I put out orders, very honestly, that nobody could hire anybody, particularly scientists but anybody, without my interviewing them and being sure they were what we wanted. Yeah, you make mistakes, but you make fewer that way.

And we began figuring out—and that's where the recombinant DNA revolution comes in, and the first products that were made and the promise of what could be done with all of this. We began figuring out how we could get that institute name up front and center. And within months, maybe a year, because the science was so exciting, we were able to get that science every day in the newspapers—didn't always mention NIGMS, but it did a lot. Hans was happy about it. I don't think it bothered him at all. We remained good friends. When Marny died, I went and sat with him for a long time, and it was the saddest... You know, I've lost relatives. When he sat there, and it was while I was sick, he sat there and he said, "I lost my sight, I lost my wife. I don't want to live." And Al and I would bolster him up, and he very quickly, as you know, remarried. Vicky I know knows the story.

Hannaway: Yes. I would like to hear it.

Kirschstein: Hans and Marny and the kids had a beautiful home at Woods Hole, and their next-door neighbor was a couple. The husband was in the Anatomy Department, I think, at the University of Minnesota Medical School, and Jane, his wife, had just recently been widowed, and Hans ended up in the hospital, at Suburban Hospital, shortly after Marny died, with a minor second coronary and picked up the phone while he was there, and he called Jane and asked her to marry him.

Harden: These are some details I've missed.

Kirschstein: And she did.

Harden: Yeah.

Kirschstein: And she came, and it was hard for Jane. Hans knew how to find his way around that house. He had been blind, and he had learned, and there was all this furniture and heavy stuff that was Marny's, and Jane never felt that she could change a thing because it would hurt him in some way. She was a wonderful woman. We got very friendly with her too.

Harden: So you've now painted a picture of the situation that you found at NIGMS as you took over, and you've talked about some of the things you felt that you had to do. And, of course, when you've got a situation like this, you can look at it as a disaster or as an opportunity, and obviously you saw the opportunity. Can you sort out for me your initial analysis of—you've already talked about some of the programs that Hans had started and others that you wanted to continue and that the things you wanted to start, new initiatives. Can you elaborate on that?

Kirschstein: Well, the two programs that he had absolutely put his mark on, I simply expanded. One was cellular basis of disease, and the other one was the genetic basis of disease. He had inherited two other programs. One was called pharmacology-toxicology, and the other one was called biomedical engineering.

Now, the pharmacology-toxicology program was of particular interest because one of the things—I don't remember whether I said to you way back, before Hans, at the start of the National Institute of General Medical Sciences, the person who was the director, maybe the second director, and who just recently died, was a man named Fred Stone. And Fred Stone was very, very close to Dr. Shannon. And there is no question in my mind, from watching what had been going on, that Dr. Shannon was basically running NIGMS. Fred was his tool—that's a little harsh—his mechanism for doing it. And Shannon was a

pharmacologist, physiology-pharmacology, and I actually heard him talk. I went to a lecture once where I heard him talk about this—saw enormous opportunities. He had been at Squibb, and he had helped develop the drugs for malaria during World War II, for drugs, for pharmacology and toxicology, and he saw the way to do it was through the development of large academic research centers to study drugs and development of drugs and the toxic effect of drugs. And Hans had let them go. There were some 10 or 12. And when I came, that program was run by somebody who had been at it in the old-fashioned pharmacology for a long time. Here we had this burgeoning new science—cell biology, genetics—and NIGMS pharmacology was probably still in the 1920s, 1930s, maybe 1940s, and I realized we had to do something about that. And so the first thing we did was to take the toxicology out of the name, and we added a cellular basis of disease, we added a genetic basis of disease, and we actually changed cellular and molecular genetics, and then we went to a pharmacologic basis of disease, and gradually moved those centers down to smaller entities, not renewing them. I mean, we moved to bringing in new, dynamic young people in pharmacology.

And then we did the same thing in bioengineering and to the burn and trauma section. NIGMS was a hodgepodge, and it had been a hodgepodge even before Hans got there, because it was the National Institute of General Medical Sciences. If we had probably been thinking about it, somebody would have—and maybe it was not such a smart idea—would have called it the National Institute of Basic Medical Sciences. Many people suggested I change the name, and I realized that if we did that, first of all, we'd have to reestablish it completely; and, secondly, "medical" meant that it was something. So they put everything that didn't fit anywhere in one of the other institutes in [NIGMS]. So when burn and trauma was part of a [Congressional] act of some year, the Heart-Stroke Act of 1964 or whatever it was, somebody put burn and trauma in NIGMS. They stuck it in NIGMS. Somebody put bioengineering in there. They stuck it in NIGMS. And I just made them all come together in an entity, and I made us think not in terms of separate programs, but together.

The other thing was, the NIGMS under Hans and people before was really two institutes. It was the Research Grants Institute and the Research Training Institute, and we combined them. We took the training programs that belonged to cellular and molecular biology and put them over in the research part, and we formed one institute, and I was pretty heavy-handed. We didn't fund any grants without my agreeing; we didn't hire anybody without my agreeing. Now, I did let everybody express themselves. I had an open door, and everybody came in. And I think most of them gradually began to agree. Vince certainly did. Charlie Miller never did. And he was just mad because he wanted to be the director, just plain and simple as that. He won't admit it, but that's true. And Leo and I had a wonderful partnership. He eventually left. He wanted to retire in 1983. And that was when I got sick and I wasn't sure what was going to happen, and I begged him to stay. So he retired about four years later or something like that, and I found a deputy.

And the other thing we did was we called in some people who realized the importance of structural biology and brought **Marvin Kasner** to NIGMS as a physical chemist with knowledge of structural biology. Marvin is now the director. And when I had to do a couple of things, I made somebody else the deputy before Marvin. I made **Luther Williams** the deputy. He was a Black scientist, so we had for the first time a Black deputy. He left to go to the National Science Foundation, where he runs their training programs now. And then I made Marvin the deputy, and that was the smartest move I ever made.

Harden: Can you talk a little bit about going to Congress? I mean, the NIGMS is the one non-categorical [institute], so you didn't have a disease to take to Congress.

Kirschstein: Right.

Harden: How did your relationship with Congress change over time? How did it start and how did it go?

Kirschstein: Very interestingly. First of all, the House Appropriations Committee, at my first and second hearing, which would have been the spring of 1975 and 1976—and it may have lasted a third year, but I don't know—was chaired by **Dan Flood**. Dan Flood was the Democratic congressman from Wilkes Barre, Pennsylvania, with a handlebar mustache, and who had once been a vaudevillian. Number two, many of his staff went to jail for corruption, and he decided not to run and just barely didn't go to jail. He was a real dictator, and everybody kept telling me to be afraid of him, and I was just—I don't know; I was scared to death, but I managed to stay cool. And we decided that the strategy would be that we would talk about these new things that were happening, but we would also talk about the importance of burn and trauma research, but we would be perfectly honest, and we would talk about the fact that you can't make something happen if you don't have the people, the good people, and the grants don't meet peer review. And I don't know if Flood paid any attention, but his staff did. **Bob Michael** was the ranking minority, and he listened. **Lou Stokes** was on it, and he loved us because we were doing minority programs. And then Mr. Flood left, and Mr. **Natcher** came in. Mr. Natcher was a Southern gentleman, so he wasn't going to be mean to me no matter what he did. I'm still the only woman.

Harden: Yes.

Kirschstein: And he and I became friends. I became close friends of his. In fact, I was greatly honored because he died, you may remember, just after I moved [to this position] in 1993. It was the spring, I believe, because Harold [Varmus] was already confirmed [as NIH director]. And I was asked to go on one of the Air Force planes to the funeral down in Kentucky. I worked closely with the staff. They knew I would help them. They knew I would tell the truth. And it was a wonderful time.

But there were some funny episodes. The first hearing on the Senate side, **Warren Magnuson** was the chair of the Senate Appropriations Committee. The Clinical Center is named for him. With all due deference, he was well known for imbibing. The first hearing, Bob Stone took all of us down, and the Senate had a format that was different than the House. The House had a format where every institute went individually. The Senate got all the institutes together with the director in the middle, the director started, then everybody was supposed to say something, and then there were questions. And on this beautiful day, a spring day in middle April, and we were in this gorgeous room, and all of us, we were about to start. Mr. Magnuson had kept us waiting. He walked in, he sat down. We were about to start. And the door burst open and a congressman with whom Mr. Magnuson was very close entered. We recognized him. It was **Thurston Morton** from Maryland—no, from Wisconsin. His brother was **Roger**

Morton, who was from Maryland. And Mr. Magnuson said, "Excuse me, Dr. Stone," and talked to him for a while, then turned around and said, "The Congressman and I have a lot of business to do. You all come back tomorrow." They went out drinking. We came back the next day and we did our thing.

The second year was even better. They kept putting off the hearing, putting it off and putting it off and putting it off. And finally we got word that we were to write everything. They would send us the questions. We were to write everything like the hearing had taken place. They always sent questions, and you would see it in the report. "The following questions were submitted in writing, and these are the transcript." And we did it. He obviously was in no shape to hold the hearing, and his staff person wrote it in such a way that it looked like the hearing had taken place. He got caught and he was fired.

We met there in that beautiful room, and for some reason or other, the fourth or the fifth year, there was something else going on in that room, and they found some sort of tiny room, and these were separate hearings, and there may have been some of them that were held in that beautiful room, tiny hearings. This one was just a few institute directors in a tiny room down in maybe the second basement of the Capitol. We got down there and there was a table about this wide, and I was even closer to where Mr. Magnuson was sitting, and the staff person came in and he said, "We don't have room for everybody," and looked at me and said, "Well, maybe you can sit on the Senator's lap," and I said, "Maybe he'll sit on mine," and that ended the conversation."

Hannaway: That's a wonderful story.

Kirschstein: It is a wonderful story. But Mr. Magnuson was very good. And sometimes when Mr. Magnuson didn't show up, it was very bipartisan, and the other senators would hold the hearing, and it really didn't matter whether it was the Republican or the Democrat. **Tom Eagleton**, I had a great talk with him; **Mark Hatfield**, who actually was a neighbor of my best friend. Their children played together, and so we talked about that, and he and I have been fast friends; **Ed Brooks**, who helped to start all the NIGMS minority programs and with whom I had a wonderful relationship--actually, all of them over the years, because we did it for so long. **Carl Cookford** will tell you the same thing. Dave Rall will tell you the same thing.

As a matter of fact, I said to you that **Bob Michael** was the ranking under Mr. Flood. He was not. Bob came later. It was Silvio Conte. Mr. Conte and I had a wonderful working relationship. Mr. Conte always went up to his Massachusetts district every time they got a large grant at a particular university. And we all had a very good, warm relationship with them. It was very bipartisan.

Some institute directors—I know there were institute directors who made them angry. I can name them, but I won't. But they would ask me a question, and if I didn't know the answer, I would say, "I will get you the information as soon as possible," and they kept seeing us all the time. And **Mr. Porter**, who now is the chair of the Appropriations Committee, was on the committee, maybe third down the line, and he and I became friends, and he always starts off every year at the appropriation, "It's so nice to see you here again, Dr. Varmus and Ruth," and he actually was the one who presented me with **the _____** Award. They asked him to do it. So it has been a wonderful thing. You have to be honest and you have to help.

On the Senate side, Lowell Weicker did one really interesting thing. I can't even remember what year. It was the year Dick Krausy left, and so we were all there, and Lowell Weicker said that he wanted to wish Dick Krausy well. He knew he was leaving to go to a job which clearly paid better than NIH could, and he knew that all these men could gain much greater salaries, and he went off. The next morning, he started off by saying, "My staff person, Claudia Ingraham"—he subsequently married her—"wants me to make an apology, and I want to make an apology to Dr. Kirschstein and to Betty," who was the head of NCRR. "I talked about the men yesterday, and I'm sure both of you women could make equal salaries if you left." It was quite lovely. And we were invited to Lowell Weicker's going-away party in his home. So it was really a very close relationship.

Hannaway: A very close relationship.

Kirschstein: A very close relationship all over the years.

Harden: Did you have any situations in terms of the budget being so tight where you had to defend the budget?

Kirschstein: Oh, yes. And there were lots of those. And in those days they allowed you—and the senators and the congressmen all knew it—to answer the question, "What, in your professional judgment, Doctor, is an appropriate budget for your institute?" We'd work up a professional-judgment budget. Now they won't let you answer that question anymore.

The other thing was that there was a table that used to go to the congresspeople, and the administration got too smart and didn't do it anymore. We called it the "Who Struck John Table." It's a table that says, column one, "What did you ask OMB for when you first started the budget?" So we're working on the year; next March, we will start on the year 2001 budget. We have to tell them what we would have been able to do. It depends on your commitment base and how much you can ask for and so forth. Then you get the mark-back from the OMB. Then there's an appeal. Then the Department tells you what you can have. Then there's an appeal. Then you get the final President's budget. And what the table shows is that you started here.

Harden: It's gone down.

Kirschstein: You go down, and then the Congress raises it. So there would always be a question, "What did you ask for here, but who struck John?" So it was a different atmosphere. Nobody cared that you had to balance the budget. And, of course, they've been very generous recently, too, now that the budget is balanced.

One of the questions that the search committee asked me was, did I think I was going to be able to

handle this? And I said I was sure that I would be frightened, but I would equally work. And I practiced. For weeks I studied, even after I got very comfortable that they wouldn't hurt me in any way. I knew every facet of that budget inside out.

There was one episode, and Dr. Varmus, as professor at the University of California in San Francisco, was an enormous help to me. On the floor of the Senate—and there was a firewall between defense money and domestic money, and the domestic money for the homeless had been cut. And while he is not a liberal spender, Senator **Pete Dominici**, for very personal reasons, wanted money restored to the homeless, and he didn't want to take it away from mental health for the same personal reasons. You can figure that one out. And he didn't want to take it from anywhere else, and there's this General Medical Sciences, so he took it out of General Medical Sciences on the floor, and I was beside myself. And I began to think about what I could do, and this was all under the table. Nobody knew, I did it all on my own—the company that was most active on the issue of recombinant DNA and cell biology was Merck, and I knew some people there, and they knew people in some of the societies, and they knew people at the *New York Times*. And Harold Varmus and **Mark Kirschner** wrote an op-ed piece that the *New York Times* published about this institute that was at the forefront of the biotechnology—this was in the 1980s—biotechnology revolution that was going to save the commercial aspects of industry in this country. We had given away the computer chip; we had given away some other things, videos, I guess. And they put the money back in the budget on the floor when they went to conference.

Hannaway: But your contribution to this is unknown.

Kirschstein: Well, I hope so.

Hannaway: Now it's known.

Kirschstein: Now it's known. And Harold knows.

Harden: But this whole political process I think is so fascinating, and people probably don't understand how it has to work.

Kirschstein: They don't. On the other hand, it has worked well. And, you know, there was all of this fuss in the Fredrickson era about the disease of the month and new institutes, and probably it was the appropriate fuss. But Mary Lasker used to say that a rising ship raises the entire tide, and it was true. She worked tirelessly for the Cancer Institute, but everybody else did better as a result of that.

Harden: Now, you clearly are relishing talking about these years, and you enjoyed it.

Kirschstein: It's the best job I ever had.

Harden: Tell me about... This is also, if I'm calculating correctly, when your son must have been about to graduate from high school.

Kirschstein: No. It was not. Nineteen seventy-four was when I took over NIGMS. He was 19.

Harden: So he was out of high school.

Kirschstein: I probably would not have considered a job with enormous responsibility like this if he had been really younger. He was at Brown, and then he went on to medical school.

Harden: Yes.

Kirschstein: And so...

Harden: But he was not at home every day.

Kirschstein: He was not at home every day.

Harden: So that's when you—that figured into the whole decision.

Kirschstein: Yeah.

Harden: And Dr. Rabson [Kirschstein's husband] was—I'm sure you talked it over with him.

Kirschstein: Oh, yeah. He was enormously supportive, enormously supportive. He had stayed in the lab. He was chief of the Laboratory of Pathology at the Cancer Institute. Dick Raucher, who was director of the Cancer Institute, asked him when Nat Berlin left to become the director of the Division of Cancer Biology and Diagnosis, which was not that different than NIGMS in size at the time because it was intramural as well as some extramural things.

If you had ever told me in the starting point of NIGMS—because when I got there, the budget was about \$185 million—if you ever told me that it would now go to what it is this year, which is \$1.1 billion! I

remember when the Cancer Institute got to a billion and we agreed that nobody else would ever make it. If you had told me I was going to, I would not have believed that. That really was remarkable.

Hannaway: The other aspect of your beginning years at NIGMS was your colleagues, your fellow directors of other institutes. And we wondered if you would comment how they reacted to you as being the first woman director, and do you have any stories about that aspect.

Kirschstein: Oh, sure.

Hannaway: We'd love to hear them.

Kirschstein: Well, I had known many of them, and they reacted quite well. I have no doubt that if I had been appointed as the director of the Cancer Institute or the Heart Institute or the Arthritis and Metabolic Diseases [it would be different], but NIGMS was a throwaway institute as far as they were concerned. The only thing that was important, and they felt kept NIH going, was the concentration on disease, and particular diseases that really had important aspects of things.

NIH at that point was really enormously a set of fiefdoms. And the director of NIH had very little clout in being able to get the institute directors to do what he might want them to do, and they [the NIH directors] all complained about it—Stone a little bit. He didn't last long enough to [do anything about it]. Fredrickson, one of the reasons he became [frustrated] when looking at the broader picture of recombinant DNA, the OMAR consensus development, was because he couldn't put his hands on the budget. People suggested that maybe he ought to have some discretionary money. He was afraid to try it. He probably could have gotten it. Varmus has enormous discretion now, and we can come back to that. Jim Wyngaarden complained bitterly when he became the director, and it was at a time when there wasn't a very friendly secretary, so he could never see the secretary, he could never talk to the assistant secretary for health. Fredrickson did, of course, because he knew Cooper so well. And I used to tell him, "Jim, you ought to use your moral suasion." And he finally did, and he didn't realize how much he had done. I took Jim Wyngaarden to a National Academy meeting, along with **Marvin Kasman**, to hear what structural biology, crystallography, could do. He heard Fred Richards at Yale. He came out just glowing, and he said, "Do you think we can do that to try to begin to find drugs for AIDS?" And Marvin and I said yes. And he got \$10 million in discretionary money that year by talking about it at Congress, for the intramural program to set up its AIDS structural biology program.

Harden: That was the OD Program.

Kirschstein: The OD Program, that's right. It was run through the scientific director. That was the start of being able to start controlling things here in Building 1. But Jim never realized what he had done and what he had started along the way.

So my colleagues didn't pay me much mind. I began talking to them individually about, won't it be nice if we worked closely together, and they'd go, "Yeah." And I said, "What about meeting once a month for a brown-bag lunch. I'll bring the cookies. You all come." We did that for about two years. After a while, they got tired of it. But we did discuss problems.

Harden: [Problems with the] institute director?

Kirschstein: Mostly why we didn't like what the director of NIH was doing. But that's all right. They went to him and told him about it. So I do take some credit for doing that.

The second thing that happened was that I was appointed on September 1st, 1974. Sometime like spring of 1975, the then deputy director of NIH, one **Lamont Havers** called me up one Friday afternoon and he said, "Ruth, we need to do a study on peer review, grants peer review." I said, "That sounds interesting." And he said, "And we want you to chair the committee." And I said, "You know, I've just spent 20 years of my life in the intramural program. Then I went to FDA, and I've been with NIGMS," which had no intramural program and was purely grants, "six months learning about the grants program, and I don't think I have a real grasp on it yet. Why are you asking me?" He said, "That's precisely the reason, that we want to have a fresh approach." He said, "We will provide you with somebody who knows the program, but we want a fresh approach." And he provided me with the most wonderful person I have ever dealt with, **Matilda Soloway**. You know who Matilda is?

Harden: No, I don't. I don't know her.

Kirschstein: Matilda Soloway is a Ph.D. scientist who is about 92 now, lives in New York but was living here, and had gotten her Ph.D. at Columbia in microbiology in about 1917, something like that. She was a dwarf. She comes to about here on me, and a family that was convinced by the doctors she wasn't going to live, and she's 92 now, spunky as can be. She had spent the war years at Ft. Detrick in microbiology, and a whole group of people at the end of the war—as NIH was setting up its grants program and needed scientists who were willing to go into administration—who moved from Detrick, which was closing out biologic warfare, to down here. And she had worked in a number of places, ending up in the Neurology Institute, where she set up their Neurological Centers Program, then went to the Heart Institute, and then retired and found that she was bored. And I think she retired even before she was 70—in those days, retirement age was required at 70. In fact, she wanted to come back, and she became the executive secretary of this grants peer-review study team that I chaired.

Harden: We want to walk you through in more detail. We're going to run out of time today, I'm afraid.

Kirschstein: Mm-hmm. But between the two of us, we picked people, some of whom were tried and true and some of whom were fairly new, and we spent a year and a half going around the country listening to people who were complaining, just like **Howard Shockman** does now, who's the

ombudsman, talking to people and made a series of recommendations that changed the face of peer review. My colleagues found out that I listened to them. I remember going to a budget meeting where I said something absolutely—in the very early days—something absolutely stupid about “that won’t allow me to do XYZ”, and none of them were saying the same thing. And at the end of the meeting I said, “What’s wrong?” and they said, “You’ll learn to admit it because they’ll take it away from you if you admit it. Just keep quiet.” And so I learned from them, and we became very good colleagues, very good colleagues. Betty Pickett.

Harden: Betty Pickett?

Kirschstein: Betty Pickett then became the director of the National Center for Research Resources. It was not that then. It was the Division of Research Resources.

Harden: Did she come to the institute directors’ meetings?

Kirschstein: Yes. It was an IC. In fact, it was a BID directors’ meeting, Bureau, Institute and Division. Then all the institutes really were bureau level.

Harden: It had to do with budget authority.

Kirschstein: Budget authority and who was above you and who was below you and who you reported to, and goodness knows what. And then it became ICD, Institute, Center and Division, and now we don’t have any divisions who are anything but part of an institute or a center, so now it’s an IC meeting.

The other thing that happened—and Bel Ceja used to say this all the time—we would go to those meetings, and they would be mostly show and tell. The director would show and talk, and then he would say, “Are there any comments?” and most people were frightened to death to say anything, and I would usually ask a question or say something, and Bel would say to me, “You’re the only one with spunk.” And I figured if they wanted to fire me, I’d go out and practice pathology, and I figured they weren’t going to fire a woman anyway. And so things went fine, so much so—and I will tell you this about my illness.

Institute directors’ meetings were on Thursday mornings, inviolate, at 8:30. Now, I didn’t miss a day of work for the 18 months that I was going through surgery, radiation therapy, and chemotherapy. But I did not get into work at 8:30 on the Thursday mornings when I had been treated on Wednesday afternoon. And we always had certain seats where everybody sat, just because it was the way it was. I had picked my seat to be across from where the director sat. Nobody ever sat in that chair for 18 months. I thought that was very...

Harden: That's quite a tribute.

Kirschstein: I really have never forgotten that. They were very sweet.

Harden: Why don't we stop there.

Kirschstein: Okay.

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