

INTERVIEWEE: Hilda Pope Willett
INTERVIEWER: Jessica Roseberry
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PLACE: Dr. Willett's home in Raleigh, North Carolina

WILLETT INTERVIEW NO. 1

JESSICA ROSEBERRY: This is Jessica Roseberry. I'm here with Dr. Hilda Pope Willett, and she's Professor Emerita of Molecular Genetics and Microbiology. It's May 21, 2007, and we're here in her home in Raleigh, North Carolina. And I want to thank you, Dr. Willett, for agreeing to be interviewed. It's a real pleasure to talk with you today.

HILDA POPE WILLETT: Thank you.

ROSEBERRY: I thought that I might start, if it's all right, and ask when you were born, if that's okay.

WILLETT: I was born on July 15, 1923.

ROSEBERRY: And where was this?

WILLETT: I was born in Decatur, Georgia, which is very near Atlanta, but I lived in Decatur for only two years. After two years, my family moved to Griffin, Georgia, which is forty miles south of Atlanta. Griffin is a much smaller place, of course, than Atlanta, but it was a wonderful place to rear a child.

ROSEBERRY: Did you have any brothers and sisters?

WILLETT: I had one brother and two sisters. They all were wonderful (*laughter*) people. They're all deceased now. My brother was a Colonel in the regular army. In fact, he fought over in the World War II and suffered some injuries on the battlefield.

But he remained in the army until his death because he loved it so much. My sister, Grace, was four years older than I. She was quite different from my brother. And she was very good in the piano. But the main talent was her writing. She could compose the most beautiful poems. I really enjoyed them. Wished I still had them, but I do not. Unfortunately, however, she was killed in an automobile accident when she was about twenty-five years old. That left only the one sister, and she died about five years ago. So I'm the only sibling remaining. (*laughs*)

ROSEBERRY: And what did your other sister do?

WILLETT: She taught school.

ROSEBERRY: Now, was there an expectation that the girls would go to school—would get a higher education, or—?

WILLETT: Absolutely, as far as the bachelor's degree is concerned. That is one thing that my parents—they just really put a great deal of emphasis on the schoolwork. They helped us, you know, supervised us (*laughs*) and saw that we got our lessons every single day. We never could, you know, fudge—not that we wanted to, but anyway—. And were very encouraging as far as our going on to college. Unfortunately, that was during the Great Depression, and the finances were very sparse. But we—and I had a scholarship the first year, because I'd been valedictorian of the class. I went to Georgia State College for Women (GSCW). And I enjoyed my experience at GSCW thoroughly. And I majored in biology and chemistry, got a double major because I couldn't decide which one was my favorite. I had a wonderful professor, Dr. James Stokes. And he thought that I should continue my education, because at that time no women—or not many women—went past the bachelor's degree. And what they ended up with was

teaching school. And he told me (*laughs*) he didn't think that I would be satisfied with this. He thought I would be bored after a while with just doing that. And he encouraged me to go to graduate school. Unfortunately, my parents couldn't help at all at that point. But because of the wonderful recommendation Dr. Stokes wrote for me, I was able to get a scholarship at Duke in the Bacteriology Department with Dr. D. T. Smith, because he wanted someone to do some TB research for him.

ROSEBERRY: He was looking for a graduate student?

WILLETT: Yes. But he was interested in somebody who would do TB research—that was his main interest—and thus the subject of my master's degree. So I sort of fell in line with what he was interested in and apparently was a good, hard worker. In fact, I stayed in the lab seemed like twenty-four hours a day. And I was successful in getting a master's. I received the master's in 1949. And then of course I was going to just stop after that, because they didn't offer a PhD in microbiology at that time. But I stayed on, continued to do research, and also took some additional courses that my doctoral committee required of me. The courses, together with my doctoral dissertation, enabled me to get my PhD, which, again, was the first PhD given at Duke in the Department of Microbiology.

ROSEBERRY: So it kind of came piece by piece.

WILLETT: Piece by piece. So that's how I got my PhD. And I'm sure it was D.T. Smith, who, as soon as I got my PhD, recommended me for a faculty position—first as an instructor, then I rapidly moved up the chain and—there were no professors in the department at that time. The department, however, had several other members, and each one of them, time after time, would be promoted to a full professor.

ROSEBERRY: So they started with lower level—?

WILLETT: They started at the same level that I started at, but they would progress. I guess we progressed about the same level through the ranks of assistant and associate professors. But when it reached that professor stage, I thought it was sort of stopped.

ROSEBERRY: How were you stopped?

WILLETT: Well, others were promoted first. They were promoted, and I was kept back. And that was a very, very definite—the fact that the women don't deserve—they're not good enough to be a professor. But Dr. Smith, he said, "I'll not—I will not approve of anybody else until Hilda is promoted," so there. There again, dear D.T.

ROSEBERRY: So was that the APT [Appointment, Promotion and Tenure] Committee that was in charge of promoting or not promoting?

WILLETT: Yeah, that was APT—yes, but the committee's actions had to be with the recommendation of the other members of the faculty.

ROSEBERRY: Within that department—?

WILLETT: Within that department, yes.

ROSEBERRY: So it was—those other faculty members who kind of didn't think that women—?

WILLETT: Absolutely. Absolutely. And all of them—or most of them. I don't want to say all of them, but there were some. I know one that was holding back, and I don't want to name his name. (*laughs*)

ROSEBERRY: He was holding back a recommendation for—

WILLETT: For me, yes. He blocked it to the committee, APT Committee.

ROSEBERRY: But Dr. Smith intervened?

WILLETT: Yeah, that's when he intervened, and so it went through—it sailed through after that. So, you see why I dearly love Dr. Smith.

ROSEBERRY: Well, tell me about some of the other things that—or some of the work that you did with him.

WILLETT: Okay. The research for my master's degree was with *Mycobacterium tuberculosis*—the organism that causes tuberculosis—and he wanted me to find out whether the tubercle bacillus produced B-complex vitamins. And the reason for this is that at that particular time there was a tremendous interest in the B-complex vitamins in humans. So he wanted me to see what happened in these tubercle bacilli. Well, I found out that they did indeed produce vitamins, not just one vitamin, but a whole complex of vitamins. So I did that, and that was my master's thesis, which I got in 19—as I said, in 1949. Well, I just kept going. (*laughs*) Nobody told me to stop. And so I ended up with a PhD.

ROSEBERRY: What was your further work?

WILLETT: A continuation of my work on the tubercle bacillus, on the effect of vitamin analogs on the tubercle bacillus. This was a vitamin analysis to determine if they could be used as chemotherapeutic agents. See, that's the philosophy behind it, so that if you blocked the analog with the vitamin, they would grow. In fact, that is the theory behind—are you familiar with isoniazid?

ROSEBERRY: It's an antibiotic. Is that right, or no?

WILLETT: Well, yes.

ROSEBERRY: Okay.

WILLETT: It's used in treatment of tuberculosis. I didn't discover the drug or its use in treatment, but I did study it. It is still one of the most commonly used in the treatment of tuberculosis. In fact, they usually use it in combination with other drugs. So—

ROSEBERRY: So you studied how it affected the—?

WILLETT: To see if it antagonized the organism so that it wouldn't grow.

ROSEBERRY: What did you find?

WILLETT: I found, of course, that it did. Because that was a reason that it could be used as an agent for the treatment of patients with tuberculosis.

ROSEBERRY: I would imagine that's a fairly significant discovery.

WILLETT: Well, it was. (*laughs*) That's right. But I didn't discover isoniazid, you see, but I discovered—well, I knew the reason it was effective.

ROSEBERRY: You discovered why it worked?

WILLETT: Yes. Yes, and that was a major project that I was working on, when, unfortunately, my research came to a very, very critical end. At that time, there was a change in the department head. Dr. Smith was retiring. And the powers that be, deans and advisors, felt that it was time for Virology to take a stand and come into the Department. The new Virology chairman was excellent, but all I can say—it was a very, very abrupt change, and it was very disturbing. Everything that I had enjoyed doing is sort of taken away from me, it seemed. And he had other ideas of what I should be doing. He wanted me to be the director of graduate studies; he did not want me to continue my research. Well, at that time, we didn't have that many graduate students in the department. So what do you do? My lab—first he gave me a lab, saying I could do some—and even my daughter remembers that lab, it was so small. It was about as small

as a tiny bathroom, and so I couldn't do any research at all. Stuff was piled all on top of each other. But anyway, I told the chairman—I started to say his name, but that wouldn't be wise. (*laughs*) I started to tell him—in fact, I did—that I would not continue unless he gave me some better quarters to work in out of, as far as director of graduate studies. I couldn't have the students all coming over to Research Park 4—I don't know whether you're familiar with that or not—which is across the street in a little area away from everybody else so that I didn't feel like I could do a good job with my interaction with other people. So he gave me a nice office over in the main building where the rest of the department was located. And so from then on I was the director of Graduate Studies. I was responsible for handling all the applications that came in—and there were quite a number, you know, and to finally select along with a committee those that would be your next graduate students and offer them finances—so that I enjoyed working with them.

ROSEBERRY: That was the graduate students for the department?

WILLETT: Yes. And we—by the time that I ended my tour of duty as the director of Graduate Studies, I had admitted, and we had had to go through the department, a hundred graduate students. And it was just very enjoyable working with them.

ROSEBERRY: It sounds like you missed research, though?

WILLETT: Well, I did. Research was my first love all along, but I had to do what I could. So I was director of Graduate Studies for Microbiology as well as I was course director for the medical school microbiology course for medical students, because we were teaching the virology and all that other stuff as well. So those were my two functions. So those were my two functions.

ROSEBERRY: So microbiology includes the bacteriology and the virology?

WILLETT: Yeah, that's right.

ROSEBERRY: It encompasses all of them.

WILLETT: All of them. Microbes. So that went on until I was seventy. That's the automatic retirement age at which they don't like to pay you anymore. (*laughs*) I'll talk about the pay in a minute, but anyway, that's when it—. So I said—. But Dr.—the new chairman. I can't think of his name.

ROSEBERRY: The chairman—

WILLETT: That followed.

ROSEBERRY: Dr. Joklik.

WILLETT: That followed Dr. Joklik.

ROSEBERRY: Ah. Yes, I don't have his name written down, and I don't remember it.

Oh, yes. Jack Keene.

WILLETT: Anyway, he said he would pay me—I don't remember what the pay was—but if I were to continue, you know, helping them out and coming over—which I did until my husband died above six years ago. So I was coming back and forth (*laughs*) until then. But I had to stop—when he got sick. So anyway, that's the story of my tour of duty over at Duke.

ROSEBERRY: And do you feel like the changing to director of Graduate Studies, was that—do you feel like that was because you were a woman, or that was just kind of what—the way it was?

WILLETT: You mean, changing what I did?

ROSEBERRY: Yes, yes.

WILLETT: I think he wanted to have someone do something for the department instead of just doing research.

ROSEBERRY: So were there other people that were just doing research, or were they doing research and teaching?

WILLETT: Well, see, I was helping with the teaching, too. It was—well, okay, I'll tell you, but I can't tell you his name. Dr. Joklik first asked somebody else, a male obviously, who turned it down. He said that he knew it would take too much time from his research. And he was the one that suggested that he ask me. In fact, there was always—it was interesting, the interaction between this particular professor and myself, until he died. It was just the funniest—a strange feeling. So that's—

ROSEBERRY: So it sounds like there were people who might have not looked as well on women being in the department, or—?

WILLETT: I don't know. I think—I don't know whether they thought that they were inferior, or—I just don't know whether their experiences with women have been—were unsatisfactory. But I don't know. Have you found any clues to that?

ROSEBERRY: Uh—

WILLETT: Except that it was—at the time, was just a male attitude. And, of course, I know for a fact that the salaries were considerably less. You're aware of that, I presume.

ROSEBERRY: Not specifically. Do you mind elaborating a little bit on that?

WILLETT: Well, I don't know how I became aware of what they were, but there was a marked difference between—I don't know how I got that information—between the men and women.

ROSEBERRY: Who were at the same level?

WILLETT: Yeah. I don't know.

ROSEBERRY: And, again, was that within the department? Is it the department that would kind of determine salaries or—?

WILLETT: Yeah, I'm sure it was.

ROSEBERRY: Okay.

WILLETT: And again I don't know how I—in some of these—this information that would be coming to the department, you know, is official information. It just had them for the assistant professor, you know, level, and I can't remember how it handled associate professor and whatnot. But it seemed like that was true, all the way through until the end. And I'm sure—I remember, too, that there was a big unhappiness among the clinical departments, because they were aware of this, and I think they complained more and more that the basic sciences complained very much, you know, because they weren't aware of it as much as I guess the clinical departments were. But there was a discrepancy in the pay scale.

ROSEBERRY: So the women in the clinical departments said, We're upset about that—is that—?

WILLETT: Yes. And, again, I don't know how they—except that it seemed to be a well-known fact.

ROSEBERRY: Well, Mary Poston was in the department.

WILLETT: Oh, yes. Mary Poston, yes, she was down the hall from me when I had first arrived as a graduate student. I remember she didn't last very long after I got there.

ROSEBERRY: She passed away.

WILLETT: Yes, uh-huh. She worked in the clinical lab. That was her—but she was right down the hall from me. She was an interesting person.

ROSEBERRY: How so?

WILLETT: How did you happen to know about her?

ROSEBERRY: Well, I knew she was on the original faculty—I think she started in 1930. And I had seen her picture in the department—in a yearbook in the department, and you were—in that same year, you and she were the women represented in that year, so I thought I would ask you about her, too—from 1956.

WILLETT: That's right. She was—Mary Poston was the only woman in the department. And then after that I was—

ROSEBERRY: After that you were the only woman in the department?

WILLETT: I was the only one. Now, later on—and I don't know exactly the year this happened, you know, the department of Microbiology split into two separate departments: the Department of Microbiology and the Department of Immunology. The Immunology component which had been very weak became very strong. I don't know when the buildup started, but previously you might have only one faculty member that was an immunologist. But are you familiar—I'm sure you are—Bernard Amos?

ROSEBERRY: I know that name, um-hm.

WILLETT: Well, Bernard Amos was really a very, very nice person and a very smart one, and he attracted a lot of good people. And so it gradually got much stronger than the other components, and finally they had their own separate building. But there were some nice faculty members within that. So it was interesting.

ROSEBERRY: And then it became Molecular Genetics and Microbiology—that's the current name of the department.

WILLETT: Yes, it was there for a while Microbiology and Immunology, and I guess it went from that to the Molecular Genetics and Microbiology. Microbiology was just—it didn't have enough faculty members and everybody—that's, you know, how everything changes, with the flood of new information. Well, that's where everybody started working, you know, on genetics, genetics. So what do they do—there was already a Department of Genetics within the Biology Department, but it was more of a basics genetics. But Molecular Genetics was more suitable to the type of research being done. But they didn't have enough faculty members in Microbiology to stand alone, so they combined it. Plus the fact—and this is an interesting one—that one of the—in fact, it was the first graduate student that was admitted to the department after I became director of Graduate Studies—and this is the time that Dr. Joklik came—he became the chairman of this particular department, the Molecular Genetics and Microbiology. Our first—

ROSEBERRY: The first graduate student.

WILLETT: Yes.

ROSEBERRY: Oh, how interesting.

WILLETT: That's right. But he was a very nice, nice person, Joe Nevins. There are some nice people over there.

ROSEBERRY: So he's the current chair?

WILLETT: Right.

ROSEBERRY: Okay.

WILLETT: Because he was a geneticist, but working with the microbial systems.

Nobody really is working with just strictly bacteria anymore.

ROSEBERRY: So it sounds like the field has really changed.

WILLETT: Absolutely. Absolutely. You have your immunogenetics—see, everything is so genetics.

ROSEBERRY: I know when you first started it was probably—we were talking about antibiotics, and it was the time when antibiotics were first becoming—

WILLETT: Right—

ROSEBERRY: —well used, and that was a revolution, I'm sure.

WILLETT: Penicillin and streptomycin and all those. So a lot's happened.

ROSEBERRY: Are there other changes that might be interesting to mention as well, in that field?

WILLETT: Well, that seemed to sort of cover the—

ROSEBERRY: Okay. Yeah. Well, we had talked a little bit about Mary Poston, and you mentioned that she was in the clinical laboratory. I wonder if you could tell me what that is?

WILLETT: Oh, the clinical laboratory was just where they would get specimens from the wards, like a blood culture.

ROSEBERRY: So the doctor would bring something into the lab—

WILLETT: That's right, yes. He'd have a staff member bring it to the lab and her lab—she supervised the lab. And they usually had at least one house staff member who would be rotating through the lab who would culture the specimen. But she was an interesting person.

ROSEBERRY: I think she only had her—or she had her master's degree as well, right?

WILLETT: Right, uh-huh.

ROSEBERRY: And she—did she never take the coursework to get a PhD?

WILLETT: No. She wasn't interested in that. She wasn't that—well, I shouldn't say it, but she was not the most studious or the most—she enjoyed what she did, enjoyed it very much. She loved the interactions between she and the house staff and people she worked with there in the lab. But she was just a—you know—well, a lab technician is what she really was.

ROSEBERRY: So would she—I have heard this story of someone who received some penicillin as a student, and would she be kind of the one to administer that and—

WILLETT: Oh, no.

ROSEBERRY: No. Oh, I'm sorry, okay.

WILLETT: Received it—no, it'd have to be a doctor or a nurse.

ROSEBERRY: Okay. So she was doing the processing? She was—

WILLETT: In other words, the doctor wanted to know if this particular patient has a bacteremia. Bacteremia means that you have some organisms in your bloodstream. So what she would do, she would take the sample of the blood, and she would make a—she would—what we call culture—grow it, in other words—culture that organism in an incubator that was the same temperature as the body is. And then she would look at it the next day and see whether or not she got any growth. And if she did get growth, that was an indication, of course, that there was a bacteremia. Could do the same thing with urine, or pus, or any other exudate from the body.

ROSEBERRY: And then the doctor could, from that information—

WILLETT: That's right, know how to treat.

ROSEBERRY: Know how to treat. Okay, thank you.

WILLETT: Give him an idea of how to treat, anyway.

ROSEBERRY: So were you doing—as you were director of Graduate Studies, were you also doing some clinical as well, or a little bit of lab and some—?

WILLETT: Never. No, the graduate students did not do any clinical laboratory work.

ROSEBERRY: Were you doing any—I'm sorry. Were you doing any of that kind of work as well or—?

WILLETT: I never did any of that.

ROSEBERRY: Okay. I'm sorry.

WILLETT: No, I was taking courses. And of course I was doing research.

ROSEBERRY: So, tell me about—maybe other women in the basic sciences. I know that Mary Bernheim was in Biochemistry. Were there others that you can think of?

WILLETT: She is really the only one that I can think of in the basic sciences of the medical school. In the science departments there on campus, basics—basic sciences, not medical sciences—they had a number of women. So there seemed to be something that was inherent in the medical school aspect.

ROSEBERRY: So on a university side, is that—?

WILLETT: Yeah, basic science such as Botany and Zoology.

ROSEBERRY: What do you think that was? Do you know?

WILLETT: I don't know. No, I don't. In fact, I'm not sure whether I've even thought about that before. All I knew is that there was such a—. And Molly Bernheim is just the only one that I knew.

ROSEBERRY: Well, what about Mary Bernheim? Was she ever received negatively, do you know?

WILLETT: I don't know, because I did not have any contact with her at all. She didn't teach me, The course she taught was for the medical students.

ROSEBERRY: When people—maybe in the department—mentioned her, would it be fairly positive or—?

WILLETT: Oh, yeah. There's no—. And I never heard anything unfavorable about her.

ROSEBERRY: Well, you mentioned the lower salary of women, and before we started recording the conversation, you had mentioned that it was somewhat easier because you had been married to someone who was also working in the medical field.

WILLETT: Right.

ROSEBERRY: I wonder if you could talk a little bit about that.

WILLETT: Married to somebody. What I was getting across was the fact that he was a doctor, you know—he did go to medical school, and to all the training. But we had the finances to do things that some of the others do not have an opportunity to do, you know, as far as the rearing of children, how you handle those. And I'm sure that you know a lot of them have children, but they are sort of forced, maybe, to stay at home. I'm referring to women just in general.

ROSEBERRY: So how was that maybe easier on your family? How were you able to kind of balance your work and having a family as well?

WILLETT: Well, actually, my husband was—he was wonderful with the children. And when he came home, he sort of took over, you know, because I was starting to prepare dinners and do that. But he just took over, and he enjoyed the children—he read stories

to them. He was an unusual person. I don't have a—the only picture I have of him is the one up there out in the snow up in the mountains with his dogs. (*laughs*) But anyway, he loved the children. He would go camping with them up until the time he got sick. He'd go with them by themselves and do all these things. He had a boat that is actually out here in the creek behind our house. And he'd go out in the little boat, and actually he took that up to the lake up there, too. I can't remember—what is the lake up there?

ROSEBERRY: Kerr Lake or—

WILLETT: No, the lake up there in the north of Durham. Lake Gaston. But anyway, as far as the types of things—he enjoyed doing them, you know, and he always, from the very first, he'd spend his time with them, so he's unusual in that respect.

ROSEBERRY: Well, how did you meet him?

WILLETT: Well, he was on the house staff. After I finished my degree and was on the faculty, I was allowed to eat in the doctors' dining room. It was a nice place to meet people. (*laughs*) And that's where I met him. I'd be eating, and you go to the cafeteria and you pick a table and so sort of got in the habit, you know, of eating with certain people, and that's the way it got started. And then I think he—a little bit after that, I can't remember—I know that shortly after that, he moved into a little cabin. Well, this was after he'd finished his residency—moved into a little cabin out in the—I call that just out in the woods, but it was a nice little place. It had a little lake on it and whatnot, so—. And he invited me to come out and do some fishing and just sit and read, and so that was sort of how we got together. His practice was in internal medicine. And he enjoyed his patients, spent a lot of time with them, a lot of time with them. And as a result of that, my daughter and son both listened to him while he was talking to his patients on the

phone, and they knew how much he enjoyed medicine. They're both doctors now. My daughter is a doctor here in Raleigh, and my son is a doctor down in High Point. So that's sort of what our family consisted of.

ROSEBERRY: So how did you kind of balance taking care of a family and doing the work that you were doing? This was while you were the director of graduate students?

WILLETT: Oh, yes. Well, as I mentioned earlier, you know, and I was having to teach, too. I had to be over there at eight o'clock. We were fortunate in being able to get some wonderful people to stay with the children—we ended up buying a car for them when the children got a little bit older, so they could take them to school. And over all this time, I think we had only three helpers all the way through the time the children were in high school, during that whole period of time. So there was not a big turnover during that whole period of time. And I think the reason we were able to do this is that we paid them—we paid them a salary that was sort of based on one of the salaries over at Duke, you know, what they paid for—I can't remember which one I selected, you know, what they paid for a particular level. So anyway, we managed it. When they were born I was out one month for each of them. That was it, and I was never out a day sick a single time.

ROSEBERRY: That's pretty amazing.

WILLETT: But again, I knew that I had good help and support at home, but that was critical—critical.

ROSEBERRY: I think we had talked about—before I turned on the tape, we had talked about your commute, and I wanted to ask you about that while the tape was running. Tell me a little bit about that commute.

WILLETT: Well, you know about the commute between Duke and Raleigh.

ROSEBERRY: So you commuted every day from Raleigh to—?

WILLETT: Oh, yeah. Well, I had to—yes, every single day, this was winter and summer and I guess snowstorms in Durham, and I didn't miss a single one of these bad days except a couple of them the school canceled themselves. But there was one that I caught—oh, I got caught in it and it was horrible—a snowstorm, and it took me I don't know how many hours to get home. It was miserable to take detours from the Raleigh highway back into unfamiliar territory, because I just couldn't get by. But fortunately, I was lucky, I think. I liked that probably less than anything, (*laughs*) was the commute. But on the other hand, it made you—allowed yourself to sort of put an end to things here and just get absorbed into the things that were waiting in Durham.

ROSEBERRY: Well, why did you not live in Durham?

WILLETT: My husband's practice was here. He went into practice with someone who had just finished in the same class as he. And the two went into partnership.

ROSEBERRY: In Raleigh?

WILLETT: In Raleigh. They looked at first in Durham but nothing seemed to suit them—I can't remember the reason for Raleigh. Because they didn't go in with anyone else, they just—I don't know that it had anything to do—I just don't know why Raleigh. Actually with Duke there, maybe it's better it was over here in Raleigh. I don't know. It sure did make it harder for me, I know, having to—wasn't any problem before.

ROSEBERRY: A little bit of a sacrifice.

WILLETT: It was worth it. Strange, but for some reason—and I've thought about this before, you know, that it didn't seem that difficult, you know, stressful at all, except those snowstorms. Well, we didn't have many of those. But as I said, it could get your mind

set on this next program, so to speak, (*laughs*) what had to come up, what you had to get done immediately, get going, you know. (*laughs*) So it was very interesting. I think I've had an interesting life.

ROSEBERRY: What were some of the programs that you were working on? What were some of the projects that came up for you?

WILLETT: What projects do you mean?

ROSEBERRY: Well, you said you were able to kind of focus on different projects that you were working on.

WILLETT: Oh, well, what happened to be going on at that particular time. So—or problems that had come up, you know, that you wanted to address. Because, you know, if you were thrust into a different, you know, different atmosphere almost immediately, you get home, you want to sort of rethink and see if they become—more serious issues. I guess that's—. But I didn't seem to mind the commute. Maybe it was a rest after (*laughs*) some of the things that had been going on during the day. But there's one thing I must admit that I do not like to do. I enjoyed thoroughly working with medical students and individually in the labs. But I hated—I hated it with a passion—giving lectures myself. Oh, I hated it. But I had to give them in the big amphitheatre. Are you familiar with that? The amphitheatre in the medical school?

ROSEBERRY: I've seen pictures of it.

WILLETT: You have? That was the same amphitheatre that I had sat in to hear D.T. and Norman Conant and all the others that were on the faculty at that time. I hated it. So that was one of the reasons I was able to get to be planning the medical school course. I was able to assign lectures. (*laughs*) Unh-uh. I don't know, I just don't like to—I don't

like—I still don't like to speak before people, in a large group—even small groups. I don't know how it happened that way, but it did. See, here my brother was so completely different, and he wanted to be a lawyer. He was on the debating—head of the debating society. (*laughs*) I was not like that. And my teachers knew that I was a little on the quiet side. Some went one way, some the other.

ROSEBERRY: Were you able to—you said you enjoyed working with students.

Obviously that didn't come into play in any of the interactions with—

WILLETT: Yes. They had the basic courses. They have only microbiology course for the medical students. It consists of one lecture followed by a lab.

ROSEBERRY: They would go into the lab?

WILLETT: Yeah, um-hm, it's individual. It's not one made up of a lot of courses, master's degree or PhD either. There's very few courses.

ROSEBERRY: And you said you were able to assign who gave the lectures?

WILLETT: Well, I was course director, so you know. (*laughs*)

ROSEBERRY: So what did that mean as course director?

WILLETT: It means planning the course, meaning complete charge of it, assigning the—and I went to all the lectures, to be sure we did a good job. But yes, that's what course—what the title is, and changing what's—what's not working. But as I said, who gives the lectures. (*laughs*) But you know, when they put you in charge of certain things, well, you can't do everything, so—. I didn't volunteer to be course director, but I took advantage of it. (*laughs*) That's my greatest weakness, I think. Do you like to get up and—?

ROSEBERRY: I don't. (*laughter*) Unh-uh. What would you say was one of your greatest strengths?

WILLETT: One of my greatest strengths. It's hard—. I don't know how to express this, but it's really trying to understand an individual, you know, so that I can relate to them in such a way that there is sort of a mutual type of relationship. It's hard to—. I don't know exactly how to—sort of a one-on-one type of situation.

ROSEBERRY: I'm sure that came in handy in your work, working with the graduate students.

WILLETT: Oh, absolutely. Absolutely. Because again, the graduate students, they were under a lot of pressure. And you know, it wasn't just always just, you know, a scientific problem or something like this that was bothering them. It was other things as well, and so that it did come in handy. I think—I hope that they were benefited by it. So I was of a more one-on-one relationship with people, as opposed to giving a talk to a whole room.

ROSEBERRY: So you were their advisor?

WILLETT: Um-hm. Yep. Oh, yes, that was a major part of it, of being an advisor. And that's for quite a number of students. But I enjoyed that.

ROSEBERRY: Well, did the salary change between your two different areas? No, it continued to be the same?

WILLETT: But I—that's what I—I'm sure that there was this discrepancy. But again, how I know this—. Well, actually, after I left there was a big push, and I think that they realized—not just from my department, it was a whole basic sciences issue. The quote refers to them as the “damn campus part” of it. I think theirs is handled more fairly. So I

don't know exactly what they would do. And I think there's actually been something written up about it, too. You haven't heard anything? No.

ROSEBERRY: Do you know what that push was to make things more equal?

WILLETT: No, I don't.

ROSEBERRY: Well, when you were doing research, was that grant funded, or—?

WILLETT: Oh, yes. That's something I guess I should have mentioned. Most of the research that I did was funded by the National Tuberculosis Association. Now, that is referred to as American Lung Association. And I don't know how many years. Dr. Smith funded me, and I'm sure he got the money from them. But then I had to write the grants, you know, after I got my degree. (*laughs*) But then I had to write the grants and had to tell them what I'd done, what I was planning to do. I had to—I had to go to New York to a meeting of the Tuberculosis Association (*laughs*) and present my work at the hotel there. And it was the New Yorker Hotel—was right down in Manhattan. I had never ridden on a plane before. But I had to fly because Dr. Smith and I went together, and he got the tickets and all so—. (*laughs*) But anyway, at the meeting I nearly had a heart attack. The meeting room was large, with a long oak table covered with green felt. I thought Dr. Smith was going to present the report, but he said, “No, Hilda, you have to give it, because you did the work.”

ROSEBERRY: How long was it?

WILLETT: Oh, I don't know how long it was. It seemed like ages, but I don't know how long it was. About half an hour. It was a very difficult time.

ROSEBERRY: And you made it through?

WILLETT: I made it through. I survived the train—the ride. That one was not on an airplane.

ROSEBERRY: So how long were you doing the research? How many years did that go on?

WILLETT: Well, it went along until Dr. Joklik came.

ROSEBERRY: So that would have been—well, I'm not sure when you—. He came in maybe '68, I think, so that would have been twenty years you were doing that work.

Were you working on tuberculosis?

WILLETT: I was working on—yes, all the time, some phase of it all the time. And I had in my lab at that time graduate students of my own who were getting their degree. That's right. Mary Dudley was one of them. Louisa Frontey was another one. I had several. I always had a technician that was working with me. I really enjoyed that aspect of it.

That aspect is so different, you know, from the teaching aspect, because you're teaching them, you know, but it's sort of on a different basis.

ROSEBERRY: You can kind of—are you able to go more in-depth, maybe, if you're doing your own research and not necessarily teaching the students?

WILLETT: Oh, yeah. Definitely. You have to decide where to go, you know, what to do next. (*laughs*) So it's like doing a puzzle all the time. But that to me was a big—it was a challenging experience rather than just, I don't know, something to be so repetitious.

ROSEBERRY: Well, we had talked a little bit about some of the early work that you—some more of the in-depth work that you had done with Dr. Smith as a student, and I wonder if I can ask about some of the work that you were doing as you became a faculty

member. And I'm not a scientist, so just maybe help me understand exactly what you were looking at, in layman's language.

WILLETT: Well, it was essentially—and I told you the titles, several of them. It was simply doing pretty much the same thing, just taking an aspect of what you found out and then carrying that to a different level. But each one that you do, you see, made you—it would give you ideas of where to go. Nobody's going to tell you where to go. You've got to decide yourself, based on that. Like in research—and that's what it means, where to go, what to do to solve this—. You have a problem that you were trying to solve. Just like I told you, you know, that one of the problems that I was working on was the mode of action of isoniazid. How does it work? And so you use different ways of thinking about it and then trying to go about it and to find out how it worked.

ROSEBERRY: Can you give me some examples of what you would do to find out how it worked?

WILLETT: Well, you could say put some of your organisms in a test tube to incubate and then put some of this drug—in this case isoniazid—in with it, different levels, you know. Put it in an incubator and see if it inhibits or stops the growth of the organism. And actually, (*laughs*) I remember this, I was even—I don't know exactly the reason I was trying this. I was growing the organism on the surface of the choriollantoic membrane of an egg. (*laughs*) So I was incubating eggs—you have to find out where the fertile spot is and have to inoculate the organism on the membrane. I did that as a graduate student. Interesting. Nothing dull about that. I'd have to go way across Durham to get the fertile eggs from the farmers or the market. Did some strange things. I don't know exactly why I did it, but I guess I just wanted to know whether it worked

just in a test tube or whether it needed living tissue. That's what the purpose of that was. That was sort of an intermediate between putting in a test tube of broth or putting it in a rabbit so you could use that as sort of a—an *in vivo*, as opposed to *in vitro* way of doing it—in the body as opposed to in a tube. See, that's the reason for that. The reason it was done at that time, anyway. *(laughs)* Is your work that interesting? *(laughs)*

ROSEBERRY: I find it very interesting. But I find it very interesting to hear about your work, too, so—sounds like it was fascinating.

WILLETT: Well, I think it was—even though I couldn't continue the research. It may have been a problem later on, I don't know. Incidentally, even though it was very stressful when Dr. Joklik came and changed things, so to speak, after I was made graduate school director—I don't know. He began to rely on me so much that—*(laughs)* just a complete reverse, it seems like.

ROSEBERRY: What did he rely on you for?

WILLETT: Oh, goodness knows what. I can't remember exactly what specific things they were, but I'd have to think about it, I'm not sure. Unfortunately, I would get tired of being relied on too much, you know—. So he'd come out and ask me if I could handle that, you know. But I don't know what the specific cases were. It had nothing to do with any of the graduate students.

ROSEBERRY: Was he doing that for other members of the department?

WILLETT: No. It's almost as if I was sort of a—somebody called me the assistant chair, or something like that. *(laughs)* But I have nice memories. But again, my whole life, it's been very, very—.

ROSEBERRY: Well, tell me a little bit more about Dr. Smith. We talked about some of the wonderful things that he was able to do with you and help you move along in your career. And just tell me what he was like as a person, or as a scientist.

WILLETT: Oh, what he was like as a person? Well, both he and Mrs. Smith were just—. Well, he was very kind. He was very well thought of; let's put it this way, he was very well thought of, and he was—at one stage, president of the Tuberculosis Association. He was tops. So it wasn't that he was just a local, you know, nice person. It was just that he was well thought of everywhere. So that—what was your question?

ROSEBERRY: To tell me a little bit about him.

WILLETT: But from the first time I saw him, I liked him. He just immediately took an extremely great interest in me and made me feel comfortable. And he was just so kind. It's hard to describe. He showed me the lab, what he was trying to do, and patient, and he was just, if you can—he's just the kindest man that I've ever seen. And he almost, I think—he seemed to think of me almost as his daughter. The day before prelims, he invited me out to their house, (*laughs*) the day before prelims, to have dinner with he and Mrs. Smith, to try to calm me down and not let me get all upset the night before the prelims. They invited me down to the beach: that was another highlight. They have a house at Pawleys Island. Are you familiar with Pawleys Island in South Carolina? It's a most interesting beach. It's very different from the Atlantic Beach and ones like that. You go across sort of a bridge to get to it from the mainland, and it's made up of old houses, row after row of those, that obviously have been there for a good while. They invited me down to Pawleys Island several times. They have a daughter who practices in

Little Rock, Arkansas. And I still—we still keep up with each other. She's a doctor.

And she married a doctor. (*laughs*)

ROSEBERRY: Well, what was Susan Smith like?

WILLETT: What was Susan—you can say almost the same thing about her. The two of them were just so—you know, well suited as a pair. He was a little bit more, I won't say forceful, but a little bit more—I saw him so much more. And they were great Friends, you know, the religious—what kind of society is that?

ROSEBERRY: The Quakers.

WILLETT: Quakers, that's right. They were Quakers. And actually were instrumental in having that school open over in Chapel Hill. So that shows the type of people they are. So if you can put a halo around anybody's head, as far as I'm concerned, (*laughs*) it's D.T. Smith.

ROSEBERRY: Well, Dr. Conant was chair as well?

WILLETT: Yes, he was chair after Smith.

ROSEBERRY: Can you tell me a little bit about him?

WILLETT: I didn't have too close a relationship with Dr. Conant. He was a mycologist.

ROSEBERRY: Okay.

WILLETT: And by that time, you know, these different branches of Microbiology started springing up. Mycology is the study of fungi, those horrible-looking things that one can get on parts of their body. Dr. Conant had seven students that came in during that time period, specifically to work with him. But he was very nice, and easy to work with. He was not as outgoing as Dr. Smith or Dr. Joklik but very, very nice.

ROSEBERRY: Did he change the department much at all, or—?

WILLETT: No, he did not. He was satisfied just with running it as it had been run, and—well, having graduate students that worked in his area. And of course, when the students made application and specified what area, they wanted to work with him, you know, they just want that. So you knew if you had a mycologist like that, you know, you'd more likely be able to track that particular student, because we had someone who could give him what he wanted. But as I said, I did not come in contact with Dr. Conant too often. I guess that was the last chairman until Joklik isn't it?

ROSEBERRY: I think that's right.

WILLETT: That's when they started realizing they needed a virologist; that's where the movement was.

ROSEBERRY: Well, in your research, do you feel as if you garnered a fairly—that your reputation was pretty well—you maybe garnered a reputation in the medical center for your work or beyond the medical center? You were presenting at national conferences and publishing. I think you had twenty or thirty publications. Do you feel as if you—?

WILLETT: I think so. But that's something you'd have to ask somebody else. *(laughter)* But I think so. And again, by the fact that I was able to continue to get financing, you know, for so long. Of course, after the research stopped coming out, no more papers were being written in the area, so it's hard to say. But I know at the time that I was doing research, it was very well thought of and referred to by other people in their publication. Actually some of them—a couple of them—almost picked up what I was doing and carried it on.

ROSEBERRY: In the department?

WILLETT: No. I was the only one doing that type.

ROSEBERRY: So maybe your work with isoniazid was the major work that you were recognized for doing or—?

WILLETT: I don't think so—it was sort of looking at the basic metabolism of your tubercle bacillus, the basic metabolism. I think I remember something. One of the major,— (*laughs*) makes me tired to think about it. One of the major, major contributions that I made at Duke during this period of time—and it was due again to Dr. Smith. I think I have one of those here. Have you ever heard of a textbook called Zinsser's?

ROSEBERRY: Yes.

WILLETT: You have?

ROSEBERRY: Yes.

WILLETT: Where'd you hear that?

ROSEBERRY: It's come up in research that I've done before, but I meant to ask you about it, too, as well. I've heard it in connection with your name, as well. Tell me more about that.

WILLETT: Oh, this was a letter that somebody wanted to—their archives, they were asking for—well, I could read you this short part.

ROSEBERRY: Sure.

WILLETT: Is that too much?

ROSEBERRY: No, that's fine. Set us up for what you're going to read. Tell me what—

WILLETT: Oh, okay. It's about Zinsser.

ROSEBERRY: Oh, okay. And this is the *Zinsser's Textbook of Bacteriology*?

WILLETT: Right. Well, it changed names during the time, so that's the reason I have this as—those are the books.

ROSEBERRY: No longer bacteriology, but it becomes microbiology, it becomes other—

WILLETT: Zinsser's microbiologies.

ROSEBERRY: Microbiologies.

WILLETT: Well, as I said, this is someone asking about the possession of ones for the archives of this. And then I wrote him and said— I'm not sure whether I wrote him, or I wrote this and was thinking I might. (*laughs*) I decided maybe I didn't want to after all. “I have in my possession thirteen volumes of the classic textbook *Microbiology*, used so many years for the teaching of medical students. I was first introduced to the textbook in the early 1940s as a graduate student at Duke. At that time the text was entitled *Textbook of Bacteriology* by Zinsser and Bayne-Jones—they're from Harvard, incidentally. It was the last edition of those authors—. My mentor and the chairman of the Department of Bacteriology, Dr. David T. Smith, was asked by Dr. Bayne-Jones to assume authorship of the text for the 9th through the 14th editions. Dr. Smith remained the primary author. With the retirement of Dr. Smith, Dr. Wolfgang Joklik, a virologist and the new chairman of the Department of Microbiology assumed authorship of the textbook. From 1972 until the publication of the 20th edition in 1992, the *Zinsser Textbook of Microbiology* has expanded in scope to encompass the many disciplines of microbiology. Contents of the 20th edition include sections on bacterial physiology, immunology, medical bacteriology—”

ROSEBERRY: Oh, it stops?

WILLETT: I think it's at that point I decided not to. (*laughs*) But I do have—and I have, if you're interested in seeing the—I have all the copies.

ROSEBERRY: Oh, how interesting.

WILLETT: If you're interested. But here are the—those are the ones right here.

ROSEBERRY: So these are the editions that you were—?

WILLETT: Right.

ROSEBERRY: You contributed a chapter, or you were an editor?

WILLETT: Well, this is—this tells you, you see—. That one right there, that's the one I said that—I studied.

ROSEBERRY: The 8th edition.

WILLETT: This is when Dr. Smith was taking over. Dr. Martin—Dr. Martin—he left Duke very shortly after this, and he went down to—Florida, I think it was. And then after that it became Smith and Conant, Smith and Conant, Smith and Conant. Smith, Conant, and Overman. He was here for just one edition. And then Smith—

ROSEBERRY: 14th edition.

WILLETT: Smith, Conant, Willett. Smith and Joklik. Smith and Joklik. Joklik and Willett.

ROSEBERRY: So you were responsible for contributions to maybe four or five of the editions of that book?

WILLETT: Right. I can show you.

ROSEBERRY: Great, yeah.

WILLETT: But again, I started off—this was sort of—almost a nightmare. This had to be done, this had to be done, you know, and as soon as you finish one edition, it was time

to start on another one. And you know what dear Dr. Joklik said to me? Was it Dr. Joklik or Dr. Smith? It was Dr. Smith. That was the time that I was—I was contributing to it, you know, but my name was not on it. (*unintelligible*). And there were some things—I said, you just get through one edition, and start on another one. When I went in to tell Dr. Smith that I was going to get married, he said, “Oh, not until after Zinsser.” This was dear Dr. Smith who said this. He actually said that. And I said, “Yes.”

ROSEBERRY: So you did it before Zinsser?

WILLETT: Before Zinsser was finished I'd already—we'd already set the date, in fact. I didn't want to be—I didn't want to be—I wanted to go ahead and get the marriage out of the way and move on. But anyway, that was his comment. I know the children remember it all. What I'd have to do is I'd have to come home and go back in the study in the back of the house. (*laughs*) I was back in the study the whole time writing after everybody went to bed. I was up—I was taking on more and more of it each time. Not only that, but some of these people couldn't write, and I was having to edit everything for them.

ROSEBERRY: So how long would you be working on that book?

WILLETT: As I said, you started another one soon as you finished, as soon as one goes to press because, you know, you have to keep it up to date. And that's the reason there's so many editions out. The dates there, they're so close together.

ROSEBERRY: Fifty-seven, '60, '64, '68, '72, '67A or '76A.

WILLETT: So anyway, that's the—.

ROSEBERRY: And you said your time commitment at the lab was fairly intense, as well. Or was that just—?

WILLETT: Oh, you mean while—yes. Yes, that's what I said, it's really—how do you describe it? It was just so—on top of everything else, you know. And you know, everything has to be—you have to keep it up to date, otherwise you don't sell them. But anyway, I did get royalties from—and, you know, I'm still getting royalties. The last—what did we say the last edition was?

ROSEBERRY: We say 1980, maybe?

WILLETT: Nineteen eighties. It's hard to believe. And that's because they—I still don't understand why I'm still getting royalties, but I am. I'm getting— (*laughs*) Isn't that something? So you better write a book. (*laughs*) It has been appreciable, but it's gone down some, you know, and all just—. I don't think it's but right around two hundred dollars now, but it was way up there before.

ROSEBERRY: How much was it before?

WILLETT: Oh, several thousand dollars. Mine was based on how much I contributed to it, you know.

ROSEBERRY: But that was the money that you were receiving, was several thousand dollars?

WILLETT: Uh-huh. Yeah.

ROSEBERRY: That's great.

WILLETT: So you see, I've been busy all these years.

ROSEBERRY: Well, how much time commitment was your research?

WILLETT: Oh, you mean earlier in the game before I had to give up the research? Well, see, that was before Joklik came. It must have been quite a bit. Yeah. I can't remember back there, but—I'm sure it must have taken its toll, because as I said—I don't know,

because I was still getting grants, so I had to continue to do the research, so—. But anyway, my children remember because, Grace was just remembering— (*laughs*) that's my daughter—was just remembering, just the other day, about how I would lock myself up (*laughs*) back then. That's all I did. See, I'm afraid I wasn't very good during those years.

ROSEBERRY: So when you became the director of Graduate Studies, was that as much of a time commitment as your lab work and working on the textbook, or was that more of a nine-to-five job?

WILLETT: Oh, I think it was a nine-to-five job. I had to leave, you know, for the children, you know, to get home. I would leave every day at five o'clock. And as I said, I'd be over there at eight o'clock. So what was your question?

ROSEBERRY: I was just wondering about the difference in the time commitments between the two phases—or, the several phases of your—

WILLETT: Well, they essentially were the same the entire time I was over there. This was after I was married, of course. But I had to be both places. But with my husband, you know, his profession, well, he was gone quite a bit, too, you know, with his practice.

ROSEBERRY: So when you were doing the lab work, you were able to leave and come home and be with the family, although when Zinsser came up you were writing all the time? Is that very accurate?

WILLETT: Well, Zinsser was on top of everything else—those other things—that's the reason the Zinsser had to be done at home. Because the family had to get their half (*laughs*) of the job.

ROSEBERRY: Well, what did I not ask you today that I should have asked you, or that would be important to talk about, or interesting to talk about?

WILLETT: Well, I think that we have covered—I think you covered everything. From the time I was born. (*laughs*)

ROSEBERRY: What did your parents do?

WILLETT: My parents—my mother, she didn't do anything. She was just a housewife. My father, he was in the—he was called an agent for the Texas Oil Company. And when the Depression came along, the head of the—and this was when we were living in Griffin, Georgia—the president of the company fired Daddy and gave the job to his brother. So there we were with banks closed and everything we had in the bank closed with it. So anyway, those were the big, big, big, bad Depression years. And it remained a big problem for a good many years. Until finally, after several years, he was able to get a job with the Pure Oil Company. But it was not nearly as good a job as the one that he had had previously. With his previous job his pay was so good that we had both a cook and a nursemaid for my little sister. That's pretty good, isn't it? So anyway—but we lost everything. So it was just a case of things were just not as good after that. But as I say, he did get that other job. So that was—

ROSEBERRY: So that scholarship was really—

WILLETT: Oh, that's right. It was essential. Yes. My parents said, You know, we put you through—. And I don't know how they did that, really, through the—going to GSCW for four years. Oh, I know. I know what I did. (*laughs*) I got a job. I put my name in before I went, I wanted a job. They gave me one—which they probably did most of them—of waiting on tables. It wasn't for me. So I went to the employment

office, or whatever you call it, and told them, you know, that I just didn't have time to do my studying. So they gave me a job in the dean's office. And so I worked in the dean's office for the rest of the time (*laughs*) and got some money.

ROSEBERRY: You must have told them the right story.

WILLETT: Well, I told them something, I don't know what, but anyway, I got along. I was, you know, inside of things, things I could hear about—. And it was really enjoyable. I could, you know, work as I wanted, you know, didn't have to be certain hours. If an exam was coming up, I could sort of go in when I wanted to, so it worked out great. So that's— (*laughs*) Life's interesting, isn't it?

ROSEBERRY: I wanted to ask you one more question about working in the labs. Did you have to scale that back, the time you were able to put into that, when you had children?

WILLETT: I didn't scale anything back when I had children, no—none whatsoever, no. The only time I had to scale back the lab stuff is for the Zinsser. (*laughs*) That's the truth, that's the truth. You see, it has to come out every four years, and you've got to be hitting the literature in between. You can't be just resting. You've got to be, in other words, doing a lot of reading yourself in these areas that you have to write on. So anyway— I didn't scale back anywhere along the way.

ROSEBERRY: So how much time were you spending in the lab before the Zinsser came along? Does that question make sense?

WILLETT: I can't remember because of the changes when Joklik came. I was not spending any time after that. But before that I was—I was able—I was able, yes. I was able to keep it going, although not quite as—but, keep it going, because I had a graduate

student. I never had more than two at a time, but I had a wonderful technician who was great, Sue Camley. So, I was able to handle it pretty well. I was planning it and you know, giving it to her—the graduate students were working on projects themselves, also, so that research was continuing to go on. So that's—

ROSEBERRY: Well thank you very much, Dr. Willett. I appreciate it.

WILLETT: You're quite, quite welcome.

ROSEBERRY: It's been a pleasure talking with you.

WILLETT: Well, I've enjoyed talking to you. I've never had anyone to ask me to tell my life story before.

ROSEBERRY: Your life story.

WILLETT: I never have had to put it all together.

ROSEBERRY: It's been a pleasure. Thank you.

WILLETT: Well, it's certainly been one for me to speak with you.

ROSEBERRY: Thank you.

(end of interview)