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Charlton Prather: Good morning.

Elsie Buff: Good morning.

CP: We have with us this morning Miss Elsie Buff, who has been the director of the virology program for the state laboratory system for now over thirty—almost 35 years. She prefers to be called “Buff” though. I want to recall the first time I met Buff, she gave me a ten minute lecture on how I was supposed to call her Buff. I don’t want to tell you, but I did meet her the first day she was here, too. You don’t remember that, but I did.

It’s truly a pleasure, Buff, that you would come and share with us the fruitful, delightful, fun history that you have had with the Florida State Board of Health. And I understand that you have a—I better state that differently—that you’ve had with the state public health system, originally with the State Board of Health; and now with the Department of Health. You mentioned something about that you thought that 35 years was enough; I don’t think so. But on behalf of the College of Public Health and the University of South Florida’s Library System, I just thank you sincerely for your willingness to come and share with us. Tell me what in the world brought you here?

EB: Well, Dr. Prather, that’s a good beginning. It’s very interesting how I got to Jacksonville, Florida and the health system over here. I had finished my graduate work in clinical virology in New Orleans out of Louisiana State Medical Center and I was doing some experimental research work at Tulane in the respiratory division, which was extremely interesting because I had done my graduate work in influenza primarily and

other respiratory diseases. And I was looking for a job. Like everybody else, Sunday morning I looked at the want ads in the New Orleans paper, the *New Orleans Picayune*, and went through the ads and just out of curiosity I always read the ones that were for male only. Lo and behold, here was this ad for male only with listing all the credentials and the didactic work that I had completed; and they were interested in establishing a clinical virology lab in Jacksonville, Florida, and also that they wanted someone that had experience in administration and in teaching. And they wanted an awful lot, and of course as you well know, being familiar with the state, they did not want to pay. But that—money isn't everything all the time, you need—you need some to get along. So I decided to—"Oh man, what have I got to lose?" So I sat down and wrote—applying for the job and gave 'em my credentials and made it extremely short. And signed it "E. E. Buff." Within four or five days, I got a reply, "Dear Mr. Buff, you are just what we're looking for. Could we interest you in coming over for an interview? And would it be all right with you if we called you at your work?" So I figured I'd better go in and tell the boss real quick if I was gonna' get telephone calls over there about other jobs. He knew—he knew I was looking for other jobs all well and good. But he wasn't too happy, because he was getting cheap help. Over here we would call it OPS [Other Personnel Services]¹ and over there it was called hourly—hourly wage of recent graduates. So lo and behold I get a phone call from a Dr. Hoffert at the time. And when the secretary answered the phone, she said, "No, we don't have a Mr. Buff, we've got a Ms. Buff." And he said to her, "You're mistaken." But she said, "I'll transfer you." So I picked up the phone and I said, "This is Ms. Buff." And I got this long pause. And he said, "Are you the person that applied for the job in Jacksonville, Florida?" And I said, "Yes, sir." And he said, "You're a woman." And I said, "At last glance, I was a woman." Well, after he swallowed his excitement, or whether, his disappointment, I made arrangements to come over for an interview. And to go before the state board and there is where the first time I think I met you, the state people—the State Board of Health, four of the crankiest lookin' old men I have ever seen—

CP: Oh brother, they was—

EB: —sat around this table—now of course, present company excluded.

CP: Of course.

EB: Sat around this table, glaring at me. And first of all, I had two strikes against me. I was not only a female, but I was handicapped. Now you know, I couldn't do this job (inaudible). And at that time, the government was just going into integration and looking at disability acts and various things, but they hadn't been enacted. And knowing the way the government works, I wasn't waiting too—too patiently for these things to enact. Well after I got done with the state interview with them, they asked all kinds of questions and

¹OPS is the former title the University of South Florida used for temporary at-will positions.

I've always been extremely truthful, I said, "No, my expertise is in influenza and respiratory." They asked me what I knew about encephalitis.² They just having had a huge epidemic statewide with Saint Louis [encephalitis]³. And I said, "Truthfully, I don't even know how to spell the word *encephalitis*, but I'm willing to learn and I'm willing to go any place you'd like to send me to teach me. But I don't think it's an obstacle that I couldn't overcome." Well, they reluctantly said they would let me know, all well and good. And before I got—this was on the third floor of this particular building and before I got to the first floor, Dr. Schneider, who was then the director of the laboratory, met me and he said, "I need to talk to you." Bottom line, he hired me. And this was in the very beginning of 1965. And he said, "But when can you come to work?" And I said, "Well I would have to give notice over at least a couple weeks." So I wound up over here, February 1, 1965. That is what is known as one of the greatest challenges in my life. Prior to my coming here, this laboratory was a veterinary laboratory, run by a veterinarian, a very competent veterinarian, Dr. Lewis. And when the 1962—'63 Saint Louis [encephalitis] epidemic occurred, they took him and his expertise and with the funds from the federal government and CDC, they established the encephalitis research laboratory in Tampa, Florida, of which he became the head. A very likable person, a very knowledgeable person, but it had been a veterinary lab. You know, they checked chickens for salmonella, they'd check horses for worms and things like that. And the only type of human specimens that they were working with at all were—the only type was the serum from the Saint Louis epidemic. And that was their first real encounter with human specimens. So—(EB makes noise)—pardon me—the first week was quite a trial. I had never seen such antiquated laboratory equipment, except in museums. I believe Leeuwenhoek⁴ brought in their microscopes.

CP: Marvelous.

EB: And it was amazing. I really looked in closets to see if Louis Pasteur⁵ might be around.

CP: Marvelous. I'd like to have talked to him.

EB: And I did—I did too. Since I did have the opportunity of spending some time in his laboratory at the Pasteur Institute in Paris. I thought, "Oh my god, I'm back in Europe

²Encephalitis is irritation and inflammation of the brain, most often due to infections.

³St. Louis encephalitis virus (SLEV) is transmitted to humans through the bite of an infected mosquito. Cases of SLEV are most often found in the central and eastern U.S.

⁴Antonie Philips van Leeuwenhoek was a 17th century Dutch scientist who is considered the "Father of Microbiology."

⁵Louis Pasteur was a French chemist and microbiologist renowned for his discoveries of the principles of vaccination, microbial fermentation, and pasteurization.

again!” And they had no microtiter equipment,⁶ they had no safety precautions; they were smoking cigarettes and eating sandwiches at the bench while they opened a rabies animal head. They had no protocols. I mean what’s a “protocol”? Isolation was at a minimum. And I said, “Do you isolate flu?” “No, that’s too hard to do.” “Do you isolate Saint Louis?” “Oh yes. We have a mouse colony.” And they proceeded to take me out to the mouse colony and there I had, under my supervision now, 6,000 breeding mice. And I knew very little about mice, other than I was familiar with chick embryos because that’s what I did my graduate work in with influenza. But the mice were an entirely different story. So I decided I would call Purina. And they were very helpful, they had a training course for people just like me. A four-week training course which I took and I got good grades in that; I was really amazed. And they were very helpful. They came out and had suggestions about how we could better the handling of the animals and everything else. So consequently I thought, “Well, this is a start.” But then, working in the lab per se, I had a total of four—five people. Two had college graduates, four-year degrees; the rest had maybe high school. One other individual was an R.N. and she had been bench trained by Dr. Lewis and knew certain aspects and that was it. Then, one of the smartest people there, was a black woman, but I noticed when I looked at the table of organization, she was a lab—lab aid, the lowest rating that there was in the whole laboratory. And after watching her work and do different things and she seemed to be the most cooperative of the staff, I asked her how come if she had a four-year degree from an accredited university, how come that she was a lab aid? And she said, “Oh, I’m black,” as if I hadn’t noticed, you know. And I said—

CP: Oh boy.

EB: “What do you mean black?” She said, “Oh.” She said, “They said I’d never get a professional degree because a professional rating—because you see, I’m black and they only go to the whites.” And I was dumbfounded. Well, come to find out, I met a young man who was running the whole department in media and making all kinds of complex things and everything, and he had the same rating. And when I inquired with him why he wasn’t of a higher rating, and he was a graduate, Florida A&M; and he said, “Oh, it’s because I’m black. They don’t give ‘em to black, only the whites get them.” And this was a rude awakening. And I won’t go into the details, but it was shortly after that, I would say within two to three months, I got them professional ratings.

CP: Good, good, good, good, good, good, good.

EB: The first week I was there, the five people that were there hated me. The other college graduate despised me because you see, this job that I held not only did they—was

⁶A microtitre plate or microplate or microwell plate, is a flat plate with multiple "wells" used as small test tubes. The microplate has become a standard tool in analytical research and clinical diagnostic testing laboratories.

I brought in from another state, but I was a foreigner and I was handicapped, so I couldn't do the work that they wanted done there. And she should have had that job and she wasn't going to help me one damn bit. And I thought, "Isn't that nice?" And consequently, she was extremely arrogant, she was smart, she was a smart lady, and very, very secretive about the works. So I decided, since I didn't know how to test for encephalitis, that I should write a protocol that should be available. There should be protocols for everything. And she said, "Well, I'll never help you." And I mean this was a dark secret. Nobody else was supposed to know about this. So I decided, well, each morning I would come in and I would bribe them with doughnuts. And I would bring cake in and then I'd bring in various other things in and they would eat these with coffee, at the bench, while they were testing for Saint Louis and Eastern [encephalitis]⁷ and all these beautiful viruses which you do not take an aspirin and get well. And I sat next to 'em and I figured, "Well, while we're doing this, I'll do the same thing." I drank coffee and I ate doughnuts right next to 'em at the bench. And I sat there and took notes. It took approximately a month because the technique in order to determine the presence of encephalidities is a complex procedure, one that you—it is not a dipstick procedure and it quite entails all different types of erythrocytes⁸ from various animals. In a month, I finally had a bearing on the thing. And remember now, back then we had no computers. We had typewriters that—Remington and a few of the other companies, IBM were making that—right now, if we still had them, they would put them in their museum. To this day I would love to have to have latched on to one of those but unfortunately, I don't know—someone else probably had a moonlight requisition and took them. But anyway, slowly and with tremendous force, I had to gain their wellbeing before I could accomplish anything. And lord help me, I never changed a single thing in the beginning because I'd noticed that these people would not take change of any type.

CP: Not from a foreigner.

EB: Oh yeah. I was a foreigner, because you see, I was from Louisiana.

CP: Yeah. That's the worst kind.

EB: So of course that's the worst kind. And besides that, what made it even worse was I had a master's degree in the work that they were doing and I was trying to learn and they were not going to teach me at all. The one individual who I endeared myself to was a girl that I'm—a woman I'm sure you're familiar with by the name of Edith Jones. She had maybe a year or two of high school, but this was a woman who had been taught by some of the real good experts at the Centers for Disease Control at the technique of diagnosing rabies in animals. She was a whiz. This woman knew rabies better than anyone that I

⁷Eastern equine encephalitis virus is a form of encephalitis that primarily affects horses. Humans can contract the virus through mosquitos infected with the disease.

⁸Erythrocytes are also known as red blood cells.

have ever met. And she taught many, many people and at first she was reluctant but finally she decided that maybe I was worthwhile and I was going to stay a little while. And she taught me rabies. She did a tremendous job and she was extremely likable after you got to know her.

Well after about three or four months when the protocols were progressing and whatnot, I went upstairs to Dr. Schneider, who was, as I had mentioned, was the director of the lab; and I said, "Okay, I've been here. I finally got a few people to talk to me down there. Finally got a few things that I can accomplish. But I am at a standstill unless you give me a budget that I can update that laboratory; you will not have me here any longer." "Well, whatever you need Buff? What is it you need?" So I said, "Oh, I have a list all prepared." And I said, "I've never seen such an antiquated laboratory except in museums." And he looked at the thing and he looked—of course, knowing Dr. Schneider, he looked at the bottom line. He said, "\$35,000 to \$40,000!" Long pause again. And I said, "Drop in the bucket. I may need more, may need more." So he said—I said, "You've got a choice, you either get a laboratory up to the 1960's or—" I said, "I'll go get another job. Because—" I said, "I can't work like this. I can't progress and you can't progress and neither can the virus lab." Reluctantly, he gave me the money, reluctantly. You must know Dr. Schneider in order to know when I say reluctantly, he gave me the money. And I proceeded to put in microtiter, which they had never heard of. They were using these large test tubes and consequently, the reagents that we were buying had to come in huge quantities because they were using test tubes instead of going—instead of using microtiter, where you could use minute amounts to accomplish the same thing, and probably in a much better vein. I instituted, slowly, safety precautions; we would no longer eat at the bench, we would no longer smoke cigarettes and lay them on the bench, next to the specimen. And above all, we established a standard protocol for rabies, for the isolation of influenza, for the techniques for the encephalidities. So we had standard protocols, approved standard protocols that anyone could come in that wanted to inspect the laboratory and see how the procedure was being run. This took a lot of coercion but we had finally got it done. And then after having got the professional ratings for a few people, I must backtrack one thing.

One of the first things they gave me when I came the first day of work, they handed me a key. And I said, "But what's this for? Do you keep the laboratory locked?" "No! We keep the toilets locked." And I'm going, "I beg your pardon?" "Oh yes, the stalls to the toilet have a padlock." I said, "What's that for?" "To keep the blacks out. They can't use this toilet. They've got one up on the third floor, way in the corner. They can't use this toilet." I said, "Why?" She said, "'Cause they're black." And then I found out that they couldn't eat in the state-run cafeteria for the blind or the concessions for the blind. They could go buy things at an outside window, but they couldn't eat inside because they were—they were black. And that was for all white. And they were quite adamant; some of the people that were senior staff were also southern belles. And they didn't care for some of my things that I was instituting. And one of the first things was, I removed all the padlocks off the toilets. It took a little while, about six months before anyone would dare use—a

black would even dare use the toilet. And then I would usually have to accompany them because otherwise they would've gotten nasty remarks from the staff on that particular floor.

Well, about 1967 and the next few years, the rubella⁹ came upon the scene. And they decided that Florida would be a good state to teach how to test for rubella, because if you remember, and I'm sure you do, that rubella was one of the horrible etiologic agents in pregnant women in their first trimester, were causing tremendous birth defects. And the vaccine was being worked on, but it wasn't available at that particular time. So they sent me to CDC, and for five and a half days, I labored at CDC, learning to do this technique in order to test for rubella. When I came back to Florida, Dr. Schneider asked me how it was and I said, "Well, first of all, I do not think that there is a director in a clinical lab in the State of Florida, whether it's private or whether it is state or anything, that would let any of their techs spend five and a half days learning one technique for one test." Dr. Schneider soon learned to say, "Well, what would you suggest?" And I said, "I can put it on six and a half hours." And he said, "But you were up there for five and a half days." I said, "It doesn't make any difference." I said, "I'm not about to give them thirty minute breaks every hour, on the hour and a few other odds and ends, I can do it in six and a half hours." Which I did. And then he said, "Well how would you like to put workshops on all through the state?" And I said, "That sounded like a good idea." "Just take anybody you want." And I said, "Fine." And he said, "You'll have to do Orlando, Tampa, Miami, and Jacksonville." And I said, "Sounds like a winner." So I put the workshops together and I found out that it was getting a little tricky on this black and white issue. I said, "I'll use my own car. We'll load my own car." So then about a day or two before I was ready to leave, Dr. Schneider called me in and he said, "And who are you taking?" And I told him the two women I was taking. And he said, "You can't do that, one's black." And I said, "Oh, yes I can. Those are the two people that are highly trained and they're the ones that can teach this particular technique. I'm taking 'em." And he said, "Oh, you're gonna' run into trouble." So I said, "No, I'm gonna' take 'em." So, I came back down to my lab and we had a few people here, who were in charge of micro, who you remember, who came in my office and said, "Buff, I understand you're taking these two people on a workshop throughout the state?" And I said, "Yes that's right." She said, "You just cannot do that." And I said, "Just watch me." And not only did I take 'em but they roomed together in the same hotel room. And we ate at the same restaurants. And then we'd put the black one between the two of us. And it was the first time—the poor lady was a very, very calm lady, but she was very apprehensive about what I was attempting to do. But we accomplished that. So consequently, a year later when I got ready to go out and teach hepatitis statewide in workshops in the same cities, and I was taking the same two people, the people never said anything anymore because they knew I was gonna' do it anyways and it worked, it worked. And the workshops were a complete 100% success. I don't know how many people we taught throughout the state.

⁹Rubella, also known as the German measles, is an infection characterized by a mild fever and a rash on the skin .

And then I had the opportunity in 1970 to work with some of the people from the University of Miami. It seems as though there was an outbreak of encephalitis down in the southern part of the state. And Dr. Erin Krantz, who was an epidemiologist as well as an infectious disease man and a very fine person to work with; he called me and asked, what could I do for him and I said, "I'd be glad to help in any way we can." Well, we found a woman who had never left this little town in southern Florida, had fished her whole life, was a lady in her sixties, and she was the first confirmed case of Venezuelan encephalitis in North America. And I believe we have that published in the *Annals of Neurology* or the textbooks of something of neurology.

CP: Yeah. Wow.

EB: But we were—I was real happy to be (inaudible) with that.

CP: My curiosity, where'd she pick up the virus?

EB: She had to have picked it up right at her little stream where she fished daily. Which was just south of the Everglades. So we feel that—with—knowing that bit, that Dr. Bigler, who was our field biologist at that particular time, decided we would do a survey and find out how much Venezuelan was in that very area from Vero Beach, south. And we did uncover five other cases, subsequently in the next year or two, but there was a—also quite a bit of antibody demonstrated in the wildlife.

CP: Oh, so it was rather widespread.

EB: It was, but it was what was known as the Florida Venezuelan strain. And consequently, none of the individuals succumbed to this particular disease, although several did have sequelae. It might have been due to their predisposition with other diseases that they had. They were all elderly, in their 70's—60's, 70's, and 80's as far as I know. Recently, I haven't considered that elderly. (EB and CP laugh)

CP: I understand.

EB: Now in 1980—1985, I'm sure all of us that are awake or aware are absolutely aware of all stages of what we now know as the AIDS epidemic.

CP: Oh boy.

EB: This was 1985 and they had suspected that there was a viral etiology involved, but it took several years before they were able to isolate this particular virus. And then they called it after several other changes in terminology; it came down to be called the human immunodeficiency virus, better known as HIV. This was such a tremendous challenge, that one can barely describe it in terms of what occurred in the laboratory. In March 1985; Abbott Laboratories was the first one that came out with an approved technique for testing patients to determine their status of HIV. It was the best one because it was the only one on the market. We found out subsequently that it had a tremendous number of false positives, but let's be honest, it was the only thing we had. Now please bear in mind that I had now the grand staff of seven people.

CP: Wow!

EB: And consequently—

CP: You started out with five and—

EB: Yes, and now I have—I've really progressed. I now have seven.

CP: At 20 years later.

EB: I now have seven. This is 1985. I now have seven people. That's including me.

CP: Of course.

EB: All right. Now the techniques for HIV, the CDC, of course, they were the forerunner and we kept hearing these tones about, "Don't worry, we'll provide you with funds. We'll divide—we'll provide you with people so that you can hire people. We'll provide you with equipment, we'll provide everything." So in June 1985, June 6 to be exact, we started testing, to the best of our ability, for HIV. And in the next six months, even though we had all these good promises from the federal government, they were still working on it in their budgets. We tested 4,312 patients. And Miami was also in on this particular program, they tested maybe half that amount, but with a number of people in their high-risk area. They were running about a 30% to 35% positive and up here we were running about 20% positive. And someone—when you explain that to someone, they don't quite understand that the people that we tested first were ones that were in the throes of the

disease. They weren't actually—we weren't screening people, we were doing the ones on the top of the scope as far as that was concerned.

CP: You were doing diagnostics, not screening.

EB: That's right, that's right. Now having completed 4,312 people in six months in 1985, it's always nice to compare it with 1998. We did 233,081 patients statewide. That's a small increase from 1985.

CP: Yes it is. I hope the federal money had come through by this time.

EB: It took 24 months before we saw any money at all. And then it was two and a half to three years later before they said, "We're giving you people." It got to the point where in order to accommodate the testing of the tremendous number of specimens that were coming in—we had no room and we had very little to work with but it was amazing. At one time, I walked back in one of the labs and one of the microbiologists was on the floor, setting up microtiter plates. And I asked, "What are you doing on the floor?" And she said, "Well, Ms. Buff, if you could find a table for me, I'd be glad to work on it, but this is all I can find." And she was—this was—this was to the point where I used to kid a little bit and say, "I am not hiring anybody unless they are less than five feet tall and weigh less than 100, so they'll fit under the tables when they work." Eventually we were able to hire a few people. And to give you a little idea of the hiring, now I have 14 just doing HIV.

CP: Oh really?

EB: And since I have charge of serology¹⁰, immunology¹¹, and the STD's and virology, I have a total of 32 people.

PC: Wow!

EB: Compare that to the five I started out with.

¹⁰Serology is the scientific study of plasma serum and other bodily fluids.

¹¹Immunology is a branch of biomedical science that covers the study of all aspects of the immune system in all organisms.

CP: Let me hark back a moment. You interrupted, you—you were telling us of the over 200,000 specimens you did in '98. What was the comparative positivity rate?

EB: Positivity in Miami, it was—is about 4.0% and in—now bear in mind, Miami does the five county areas surrounding Miami and we do the other 62 counties. And our positivity rate is around 2.1[%], 2.4[%].

PC: Yeah, you're doing a lot of screening now.

EB: We are doing a tremendous amount of screening. The average load that comes in per day is 900, 1,500, just for HIV alone, as far as that's concerned. And of course, now we use all types of sophisticated techniques, like viral loads, like CD4, CD8's. And we do—we have synthetic peptides and we're in the process of setting up genetic typing to determine resistance of the various strains because that HIV agent is a very shrewd, sharp agent, and constantly modifies and mutates so that if there is a drug available, it very shortly becomes resistant to it. But it's—and we also do molecular biology—microbiology in there, so it's come quite a ways in the twenty-some years we've been testing. Not twenty-some—since 1985 as far as that's concerned. Then in 1991—1988, let's go back to that; I was called upon to represent the State of Florida to sit on a panel on an international AIDS program in Buenos Aires, Argentina, South America, which was very interesting. You had to use interpreters and very few people understood English. But it was—it was interesting because now they realized that AIDS was not only an epidemic but a pandemic. And it was everyone's concern as far as that was concerned.

Then in 1990, and I know you'll remember this; we had another outbreak of Saint Louis and that was in the central counties in Florida. And we had about 110 confirmed cases of Saint Louis and we also had approximately 20 deaths. It was—it was devastating. And not only was it devastating to the persons involved, but when you look at it from an overall point of view, the economic destruction that occurred. Because if you couldn't keep the news media from proclaiming what horrible conditions were in Florida, this would affect one of the greatest industries that we have, which is tourism. And I would sit there and answer the phone from all over, "My mother wants to come to Florida for vacation. I'm not sending her down there if you've got encephalitis." "Well where is she visiting?" And it would always be an obscure place that—where we—the only thing I could tell them is, "We have not had any cases in that particular locale." Now remember in 1990, the laboratory hadn't caught up with the modern world yet. We're all—we always seem to be behind, I don't know why. But we had no computers, we had no fax machines.

PC: This is as recently as nine years ago?

EB: Yes, yes. And we had a telephone. And consequently, our means of getting the reports through was by telephone. Of course we could always use snail mail. But we needed help badly. We needed help in the field and there was no one, really, no one in Tallahassee that could go out in the field 'cause they were strung so—so—

PC: Oh, too bad.

EB: —finely, they couldn't go. But I decided that Dr. Schneider or Dr. Heart, one of 'em was not here and I decided, well I needed help. So I called CDC and pleaded with them, "Could they please send me two EIS [Epidemic Intelligence Service] officers to go out into the field and do that." And they did, they were here the next day.

PC: Marvelous.

EB: And bless their hearts, two of the nicest men came down and I would—they would call me and I would lead them to the cases that we had the day before. And which were positive, and then they could go and interview and read the charts because most of these were in the hospital—they were still hospitalized. And they could get the—the environmental information that was needed. And they were a godsend as far as that's concerned. But there was at that time, there was Frida Wiener, who was working with me, we would get on phones and when we weren't working in the lab, we would spend from six to seven hours a day giving data out to different places that had to have it. Had to feed it to Tallahassee so they could feed it to the media. Had to feed it to the individual doc that was taking care of this particular patient because he's the one that's the first line of defense. And then we had to feed it to our EIS officers, so you can see the amount of—. Oh, and on top of that, let me also say we also had to give the information to entomology. Because if entomology didn't get the information of where these cases were occurring, how could they go and kill off the mosquitoes in order to stop the epidemic? Since this is transmitted by mosquitoes.

CP: I remember.

EB: You remember?

CP: I remember.

EB: Well, we lived through that. And then in 1991—

CP: Let me interrupt this with a question. Entomology is now with the Department of Agriculture?

EB: That is correct.

CP: Yeah. How was your report? Was communication okay?

EB: You mean prior to their going to the Department of Agriculture?

CP: No, no. In the 1990 episode. Contrast that to the days when entomology was a part of you—part of the Health Department.

EB: Well, uh, I saw—I had no problems with them at all because I knew the people and I could call them directly; and that was so important. And I could just say, “Hey Tom, I’ve got four cases of such-and-such over here. I thought you’d like to know.” And you could use your computers and you can use your faxes, but there’s nothing like the personal contact of someone that you know is sitting in a driver’s seat that has the ability to get—if they can’t do something about the information, they can get it to the person that will take action on the particular thing.

CP: Yes, very good.

EB: So I didn’t notice I was—I didn’t notice that much difference. The only thing that bothered me was the fact that I couldn’t run up to the third floor. Run, I’m using the term loosely. Come up to the third floor and walk in there and say, “Okay, we’ve got this number of cases in here, here, and here. And this is what you have to know about them.” Which is extremely valuable to them, because how can they help the State of Florida and the people of Florida if they don’t get the proper information when it is available.

CP: Yeah, and as soon as it’s available.

EB: Absolutely, speed is of an essence. And fortunately the telephone system did operate. We also have to commend the branch of the Centers for Disease Control in Fort Collins who were devising a new technique whereby they could look at spinal fluid as well as

serum and be able to do what they called a “capture procedure of an EIA¹²” and give us a result within x number of hours, like six hours.

CP: Really?

EB: Consequently, they would call us daily. And we had air flights going to them. And they could establish things from a spinal fluid, whereas we didn't have the technique here in Florida. I wish to state that we have the technique because shortly after that I sent one of our microbiologists up and was bench trained by CDC, who in turn taught several others here. So we have the state-of-the-art that, if you'd bring the spinal fluid and the serum in to the laboratory by nine in the morning, you will have a result by four.

CP: My gracious, my.

EB: The same day, the same month. And before it took anywhere between three to seven days. So—(inaudible).

CP: Yes. That was in my heyday, when it was three to seven days.

EB: Yes, yes, yes. That's correct. Then in 1991, I—again, it seems as though they've got my name on, like, a selective service list or something like that. But it's in conjunction with the Citizens International Ambassador Program through the state department. I was selected as—to lecture on lab diagnosis on AIDS at medical centers in Beijing, Wuhan, Shanghai in the People's Republic of China.

CP: Oh you were?

EB: As well as the medical centers in Hong Kong. There were only ten from North America and I, again, was the only female. And I didn't realize that in 1991, we were back to the stages where the female is a second-class citizen. I had Dr. Ed Lynette, who is a famous virologist and internist as well as an author of dozens of books and I'm sure you're familiar with who is now retired but works as a consultant through the Department of Health in California, and who incidentally, I invited to be our consultant for public health at the University of South Florida Medical School.

¹²EIA or an enzyme immunoassay test is designed to detect antigens or antibodies by producing an enzyme triggered color change.

CP: Very good, very good.

EB: And he was supposed to lead this contingent to China, and two weeks before, he fell and broke his knee. So there we were, up in—and he had done all the work, all the preparation, all the PR, everything that went with it. And we were real fortunate, he was able to talk Dr. Charles Calisher from the Center for Disease Control, who I had known since I came here because he was involved in teaching me encephalitis techniques. And he was in Korea at that time, doing a workshop; and Dr. Lynette got ahold of ‘em and asked him if he would join us and be our leader. You had to have a male leader going to China. And Dr. Calisher met us in Beijing and it was quite an interesting experience. We stayed three weeks. I don’t want to ever do it again. We spent 15 hours a day, either in busses or going to different medical schools. No one, no one can appreciate how vast China is. No one can appreciate that. The enormity of the country is just overwhelming. We were briefed in Seattle for a whole day by the state department. What we could say and what we couldn’t say. And remember, it was right after the incident in Tiananmen Square. We were forbidden to even use the term Tiananmen Square. I said, “Well, can we at least go there?” And they said, “Well, if the guides will take you there, you’ll go there.” And we were given a book of about 50 pages of the do’s and the don’ts of what you will do when you go under the hospices of the state department. Pardon me.

Not only was it 15 hours a day, but the country is so polluted that they failed to tell two of the pathologists that were travelling with us as delegates. Both wore contacts and after two hours, no one could wear their contacts again. That’s how bad the pollution was. We could cope with the pollution, but the thing that really, really got to me was the fact that we weren’t permitted to drink any water. Our water all had to be boiled and be served in thermoses because, as I learned very quickly, they fertilized their crops with human feces. So consequently all the water is contaminated. And if you don’t die off by three, then you are immune and you’ll live through it. And it was very interesting. We would stay in these absolutely beautiful five-star hotels in Beijing and Shanghai, just magnificent; with fresh flowers in every room, including the bathroom and whatnot. And there would be a sign over the shower that said, “When in here, do not let water in mouth, ears, or nose, or face. (CP laughs) What was difficult is trying to remember to brush your teeth out of a glass. And I don’t mean taking them out—without turning the faucet on, as we do here in this country. The only money I ever spent over there was to buy bottles of water. But it was a marvelous experience. I must tell you that when we went to these—I must tell you these medical schools were beautifully built. They were new buildings. And we got to one and I said, “Where was the conference room?” Because it was my turn to lecture, and they said, “On the fifth floor.” And I said, “Well that’s fine. Where’s the elevator?” And they ushered me over to the elevator and I said, “Okay, let’s go up.” And they said, “Broke.”

CP: Broke.

EB: That means Chinese for broken. So I said, “Where are the stairs?” And the stairs were on the outside. They were cement stairs, no railings, five flights up. And I said, well I was terribly sorry but I couldn’t walk up there. And they said, “No problem.” They—I’m talking to two, three people and the next thing you know, two medical students came out. They were about my size. And weighed probably as much, if not more than less, and they brought this grotesque wooden chair and they said, “Sit.” So I sat. And the next thing you know, they picked up this chair and trotted me up five flights. I have a picture that Charlie Calisher took because he knew that when he came back, no one would believe us. And what was extremely interesting, I was giving the lecture and I had to look straight at the audience, but my interpreter was to my right. And then I could only speak a sentence or two for the interpreter to interpret that to the group. I was not to look at him because he was beneath me. Consequently, if there were any questions—this was very interesting—if there were any questions from the audience—and there were quite a few questions, because they were extremely eager to learn. They would have to pose the question to their director. The director would pose the question to the interpreter, and the interpreter would in turn pose the question to Dr. Calisher, who was our leader. Because they could not pose the question directly to me, because I was a female. And Charlie would ask me what the answer was and I would have to give him the answer and he would have to give it to the interpreter and the reverse procedure occurred. Needless to say, if you had a 20-minute talk, it took a good hour and a half to deliver it.

Wuhan had about three medical schools. And I had a room overlooking the Yangtze River, with the sunrise coming up and the pollution coming through the windows. But it was really—it was really something to see the people out there as soon as it was daylight, fishing from their junks as far as that’s concerned; for their livelihood and all well and good. And then we went to Shanghai, where no one ever sleeps. And people exercise all night and all day, any hour you’re up. And you looked out the window in the streets, you would see all these people with their various forms of exercising. There wasn’t a park that we passed while we were driving where people weren’t exercising. And then we went to Hong Kong. At that time it was still under British rule.

CP: Yes.

EB: And it—it just boggles the mind, you have no idea of the enormity of the funds, the enormity of the people, the buildings, the construction, the things that are going on. It’s another world all of their own. And believe me, they have plenty of AIDS over there. But no matter to whom you spoke and said, “What is your positivity rate?” Immediately, they would have trouble with the translation.

CP: They would?

EB: Immediately, they would have trouble with translation. It was very interesting. We were in Shanghai, we were—I was introduced to a lady physician who had devised the technique for stopping Venezuelan encephalitis. And I was extremely interested in this because having worked with it. So I asked how the vaccine was made. And incidentally, all our drivers and interpreters were doctors.

CP: Oh really?

EB: All doctors. And most of ‘em were females.

CP: Oh really?

EB: And quite a few had done their internship in this country. And so they were very—they could also be an interpreter as well as a driver and a guide. So when I asked this one physician what—how was the vaccine made? And she said, “Rat brain.” So I said, “What was your mortality and morbidity rate?” And my physician that was interpreting for me spoke to her and it came back, “She doesn’t understand the translation.” And she winked at me, this little doctor. And then later we were outside in the car and she said, “You asked about the morbidity and the mortality rate.” And she said, “It was very, very difficult.” She said, “In the first 48 hours, we had 5,000 deaths.” She said, “Most of it was due to the foreign protein. You know, you don’t put rat brain in human.” She said, “but the doctor wanted you to know that she stopped the epidemic.” But it—it was very interesting because these people were—were—they were so willing for us to give them the knowledge that we had. And fortunately CDC had prepared batches of slides that I could leave at each medical institution. And one of the nicest things I had, I had some t-shirts that had public health on them and they had the international virology meetings that I attended. And oh, they thought that that was—I couldn’t have given them gold as far as that’s concerned.

CP: To whom did you give these—these—these special gifts?

EB: We gave them to one of the leaders and also—

CP: Yeah, leaders in (inaudible)

EB: Yeah, and one of the—this nice little doctor that—in Shanghai, that gave me all the information that no one else would give me. I also gave her a t-shirt and they—they were

just thrilled with that. They just—they were so interested in our clothes and what have you that we wore as far as that was concerned. But they were—they were a delight, an absolute delight.

Tape 1 ends; tape 2 begins

Well, let me get on and get away from China. Incidentally, when I got back to this country, the very first thing I did was hug a drinking fountain. And I wouldn't let anybody drink out of it at the airport. I almost drowned drinking water out of a fountain. And this one lady looked at me and I said, "Lady, you don't know what it's like to be able to drink water out of a fountain." Obviously, she thought I was a little (EB makes noise) but that's okay. In 1995, Dr. Hartwig [Eldert C. Hartwig, Jr.] calls me in his office. I never liked this, when he calls me in his office, because I know he's up to something, 'cause ordinarily he would come down to my office. And I went up there and sat there and we looked at each other for a little while. And I thought, "Oh my god, he's really got something for me." So he said, "Buff, do you know what CLIA [Clinical Laboratory Improvement Amendments] '88 is?" And I said, "Well, vaguely, I think it's the Clinical Laboratory Improvement Act of 1988." And he said, "That's right." And he shook his head and I shook my head and we paused a little bit. And he said, "Do you know that this laboratory is not in compliance at all? That we are going to lose our registration and we are not going to be able to operate as a standard public health laboratory?" And I said, "Oh?" So he said, "I've decided that you need a challenge." I don't have enough in my life. And he said, "I am going to give you the challenge of bringing this laboratory, the entire microbiology unit in compliance with all the federal regulations within the year." I looked at him and I said, "You—you've got to be kidding!" And he said, "Unfortunately not." And I said, "I don't know where to start." And he said, "Well you know what? You'll figure out a way." And I said, "I appreciate the vote of confidence. And I thank you. And why do you hate me?" And he said, "You know, I don't like—I don't hate you. I really think that you would be able to do a good job." And I said, "Well, since I—do I have a choice?" And he said, "No." So I said, "Well, then I'll go ponder the situation."

Well fortunately, I knew a couple federal inspectors that, all they did was inspect laboratories—large laboratories—clinical laboratories, to see if they were in compliance with CLIA '88. And I called one of them up and I invited them over. "Come on over for lunch, coffee, doughnuts, whatever you have." And I proceeded to lay out just exactly what I didn't know, which was vast. And she said, "Don't worry about it. We'll start someplace. We'll—I'll help you. I'll be glad to help you." Which she did. So I asked her if —Dr. Hartwig had sent an announcement around and that I was going to be in charge of setting up quality assurance to go in compliance with CLIA '88. And I would be going to the 16 different units. God help me. And he wanted full cooperation from everybody and that I could call as many meetings as I wanted. And expected everyone to comply with all my requests, which I knew nothing. So I asked this lady if she would come back and talk to these people. That this wasn't my idea or Dr. Hartwig's idea, this was so that we could maintain our registration, and that these people that were working here could

continue their job. Otherwise they would have to look for bricklaying or carpentry or something like that. Then they don't have to join a union. Consequently, we started at one point. She said, "Now start slowly." I said, "I don't know any other way because I have no idea what I'm doing." "We will not go through the thrashing and the 'I can't do that,' 'I never did this before,' and 'I don't have enough help.' I don't"— I kept saying, "I've heard all of this before and I don't care, really. Because you are going to do it. Because it's not my idea, you are going to do it." And consequently, the following year which was 11 months later, I had the first federal inspection—

CP: Real inspection?

EB: And we—yes, this was another person that I did not know. I couldn't even bribe this one. And we passed without one citation.

CP: Marvelous.

EB: Everything was marvelous. And then last—this year, just about two months ago, with continual brow-beating, we had another inspection from someone else, another federal inspector, and again we passed with 100%, without any citations.

CP: That is marvelous. That is marvelous.

EB: And this—

CP: Did you get an appropriate reward from Dr. Hartwig? Did he hug your neck or something?

EB: He said thanks.

CP: Oh well that's nice.

EB: Yeah. Well I figured coming from him that was real good. I said, "Never mind the thanks, where's the money?" And, you know, you've heard this, "Show me the money"? It's all right, it's all well and good. And then so, consequently, we've got quality assurance; where you can walk into any lab now and you will see the books that are

visible and labeled appropriately with approximate dates and what have you. It was a mammoth undertaking. A mammoth undertaking.

CP: I can imagine.

EB: And it has to be checked, by law, every 30 days. And when they complain they don't have their Q.A. ready for me to evaluate and sign off, I tell them, "Just be glad they are not working in a clinical laboratory that takes patients. Because if you took patients, you would have to have your Q.A. certified every seven days and you would also have to have your input from your patients as well as your physicians." So I said, "It could get worse." So that doesn't help any. But they still— every now and then, they try but it doesn't go very far because they know it has to be done. And I have to write a formal report to the director of the laboratory every 30 days after I complete my review of 16 units in the laboratory. And I keep threatening to retire and everybody says—they don't say, you know, "That's nice." They all say, "Well who's going to do QA?" Well that's the first thing. This is the problem. And I said, "You know, that's not going to be my problem. It's going to be someone else's." Now don't get the idea from my rambling on here for the past hour or so that I accomplished all this by myself. It's impossible. I—I was fortunate, I hired some very conscientious, loyal, industrious, intelligent individuals. I could have never accomplished this stuff without them. Never, never, never in a million years because it's—

CP: Well after all, you're a female.

EB: Yes, remember. And I'm handicapped, you know, so I couldn't do any of this. But they—they have always made me look good. You know, I'm saying—

CP: Good. That's a—that's the earmark of a good employee.

EB: Yeah. They always made me—and then one of them said, "Yeah, but you're always delegating." I said, "Because that's one of my jobs. I'm supposed to delegate. As far as that's concerned." But they—they have been marvelous to be able to reach this particular stage in the laboratory. And it's been three decades, over three decades. And we've gone from test tube days to, you know, molecular technology and all that other good stuff. And we met the needs of the medical profession whenever the emerging diseases come out, we now test not only for AIDS, but we test for hanta,¹³ we test for Lymes, we test for ehrlichiosis¹⁴, that's just to name a few. And besides that, they sound good. I don't know how to spell 'em but they sound good.

¹³Hanta is short for hantavirus.

¹⁴Ehrlichiosis is an infectious disease transmitted by the bite of a tick.

CP: Yeah, very impressive.

EB: Yeah.

CP: Yeah.

EB: And there will always be new things to boggle the scientists, because remember, these submicroscopic agents, they're—they're smarter than these morons over here; or mortals if you'd rather call 'em. And I give 'em great respect. I always have. I do not allow people to eat at the bench, nor are they allowed to smoke anyplace in the laboratory. They aren't allowed to smoke. And they must have to comply with all of OSHA [Occupational Safety and Health Administration], the safety regulations and everything else, which is a far cry from when I came in. "You want to sit down and have a cup of coffee here next to the rabies slides?" And maybe in the 34 years I've been here, I have made a little impression in the progress of this laboratory for public health, for the good of the people of Florida.

CP: There is no question about that. Reviewing all that, I have been impressed with the change of technology, from your 34 years here.

EB: Oh, tremendous.

CP: That, 34 years ago, your rabies was microscopic exam of the brain itself and then confirmation in a rat brain. A baby—baby mouse brain or something?

EB: It's like, weanling mice.

CP: And coming into this building this morning, I noticed that even the animal building is gone.

EB: Oh, we have no animals, we have no animals.

CP: And that's one notable—

EB: No, we have—no, we have—we haven't had animals in quite a number of years. The —speaking of the rabies, we do not do any of that. We do the fluorescent rabies antibody and we do the monoclonal typing of each animal brain that comes in. We cannot only tell you what species it's from but we can also tell you what strain is being carried. We do monoclonal typing and all of that.

CP: Speak to the evolution, or the—the—I don't—I want a real dramatic word to speak to the change in the technology that's come to the laboratory—

EB: Tremendous, tremendous.

CP: —particularly in the virus lab.

EB: Yeah, tremendous.

CP: And you have—you—you've kinda' walked all that through in Florida. You came before all that technology was available.

EB: I came when the basic test tube, remember.

CP: Yes, you did.

EB: The basic test tube.

CP: The big test tubes.

EB: The big test tube.

CP: And now just—just 34 ½ years later, where in the world are you? You're using terms that I don't even understand.

EB: I can't even spell.

CP: Monoclonal, what's monoclonal typing? You don't need to answer that.

EB: I won't.

CP: But—but speak to your fascination of our—or talk about the change in technology from your pasture days—

EB: The point—the point is, Dr. Prather, if you look at it, unless you have lived through it, you can't understand how it simply boggles the mind.

CP: It boggles mine.

EB: It's the—it's the only thing you can—you can—you can see from what we were not able to do and not being able to recognize that we weren't able to do it. To look at the techniques that are available at the present time. The polymerase chain reaction, the molecular typing of the various strains of the virus, we can tell where they're from, who they—where they went through and what have you; it's almost like what they call originally the oligonucleotide, that we would call the fingerprinting of the virus. And we can show the various changes in the virus, the mutations and the changes. And that's what makes—I think that's what led me into virology in the first place. When I was going to graduate school, I was undetermined whether I should go into—bacteriology or virology. And I can remember my professor, Dr. Bunning saying, “You don't want to go into bacteriology, you want to go in virology because it'll drive you nuts. You won't be able to ever figure 'em out but you won't be able to get to the end of your days, you'll be able to fight with them all the time.” And he was right. And they're—they're—it's amazing, they have no idea what these submicroscopic agents have the capability and—

CP: Yeah. In some of our early days in bacteriology training, there was kind of a cliché among the students that the professors did not disagree with; to the effect that, “viruses, viruses, viruses, what's a virus? You don't—we don't worry about those, you can't even see 'em.”

EB: Don't worry about those. No, don't worry about those. You can't—

CP: No, you can't even see 'em.

EB: If you can't stand 'em, don't look at 'em.

CP: That's correct.

EB: And everybody used to think, "Well, you have to have electron microscopes." Well, we avoided that for the main and simple reason that they never would let me have one because it cost too much money. And it wasn't that I didn't request it; I think I requested it for about 10 years in a row, but it was always too much money. And then we had to have a ground floor. And we wouldn't dare put an expensive piece of equipment on the ground floor here—

CP: On the ground floor.

EB: —because this is known as what's known as a flood land. And I can speak from experience; I wasn't here five years when I drowned [sic] a car. So consequently, I know about the floodplain. But—

CP: Speak to that a little bit. You're our first laboratorian [sic] working in this building that speaks to the predictable flooding of the Hogan's Creek.

EB: Oh dear. They—we tell people about it, particularly new employees, "Do not park in these particular areas because if the Hogan's Creek floods, your car will flood. And they go, "Sure." And they had told me that and I had seen the water come up. And I very rarely go out to lunch. I usually have a container of yogurt and a banana, that's fine. I figured it's good for my immune system or what have you. And consequently I—there was a secretary to Dr. Sowder, who was then the health officer. And she was another one who didn't like me because I was female and I was a foreigner from Louisiana. And she decided that the place for me to park was right there down where they load and unload specimens in the loading area, which is the first place that floods. And so I parked there and this one time, a commercial company came in and they were trying to sell me something for the laboratory. In so doing, had invited me to lunch. Right over here is what was known as the heart of Jacksonville. I hadn't gone to lunch, I mean, in months. And I was gone one hour and 10 minutes and I was driving a Torino, and when I came back, the water was over the steering wheel and it hadn't even sprinkled before I left. Needless to say, I had to have it dried and drained and on a nice sunny day, I put all the windows down and sold it to some unsuspecting soul because I had never got the stench out of that car, never.

CP: I can witness to that. I lost a car there, too.

EB: Yes. So you know that when I speak of the floodplain, you know of what I am speaking as far as that's concerned.

CP: An editorial aside for our listeners, we are sitting in the third floor of the Hanson Building, the second laboratory building ever built for the public health laboratory system. And it sits on a city dump. It's a very low spot and a lot of Northwest Jacksonville drains into the ocean through a little creek that runs right along the border of this building called Hogan's Creek. And when the tides are right, this building floods. And for Miss Buff's benefit, I have carried out valuable stuff off of the first floor of this building waste deep in water myself. So and—and you have built yet another building on this same site.

EB: Dr. Prather, what was very interesting, when the architects were here and they were designing the Hardy Building, named after Dr. Hardy. Albert V. was a great man. And when they were here and they proposed where the parking garage was going to be and where the building was going to be and I said, "Why are you putting a garage in the main part of the flood area?" And you'll be very interested in his response, it was, "Oh, that's simple, we only have to worry about a flood once or twice a year. And we don't lose too many cars." (CP laughs)

CP: Well, as long as it's not his car, as long as it's not his car.

EB: That is correct, that—that was my response.

CP: I want a little more response from you on the change of technology that you've witnessed. To what do you ascribe it?

EB: It's—well, you have to go back to the fact that they were able to determine the structure of the DNA.

CP: All right, all right.

EB: You really have to go back to that because once the—incidentally, those men did get the Nobel Prize for that and rightly so—once they were able to determine the structure of the DNA, this opened up—it was just like, "Open Sesame". Just like, "Open Sesame", out of that came the fact that they could take certain structures, be able to show the DNA

of a particular virus, and be able to—by using various reagents and chemicals and temperatures—be able to split the DNA and thus be able to put known reagents to it and be able to identify things. And that was the whole basis for the polymerase chain reaction that we used to identify or to demonstrate minute particles of HIV, particularly in newborns. Because as you know, in—in AIDS, when a woman is infected with AIDS and delivers a baby, in the first—up until about 15 months, the baby may show, in a regular test, that the baby is positive with antibodies to HIV. Which in reality are maternal antibodies and they can last up to 15 to 18 months. But in order to determine—since they have got some satisfactory treatment, they need to know, “Is this baby really infected with HIV or are we just looking at the antibody?” And that’s where your PC—PCA comes in so handy because you can do—you can take some of the babies’ whole blood, and be able to extract the DNA and be able to separate it, and show by polymerase chain reaction that the baby actually is or is not infected with that particular virus. And that could have never come about if the two scientists hadn’t been able to design—to show the molecular structure of the DNA. And of course, with the AIDS virus, it is a retrovirus, which means it’s just backwards, it has RNA. And the RNA is changed over—it becomes a messenger and is changed over and comes to DNA and makes it so complex for a thing that you can’t even see under a microscope.

CP: Yes. I’m fascinated with all that.

EB: But again, the—it goes back to the determination of the structure—the molecular structure of the—. The chemist and the physicist and the microbiologist all went and they were able to determine the structure of the DNA. And of course your DNA is different from my DNA and different from everybody’s. It is so far superior to a fingerprint.

CP: Yes.

EB: And I—

CP: It’s unique to me.

EB: Pardon?

CP: It’s unique to me. Mine is unique.

EB: That is correct. It was interesting on this morning’s news [pause] at 5 o’clock.

CP: (CP laughs) Yes ma'am.

EB: That they were—Massachusetts was trying to make it a law where everybody that was in the state that applied for a driver's license should have a DNA sample in the—in the bank. And the other people said, "We're trying to work with the criminals, we can't handle everything else in the bank." And someone says, "Well, we'll work out a chip where you can have, like, your FBI has your fingerprints." That was the latest thing. And I don't doubt that within the next couple years they'll come up with something where they'll have a DNA bank where you'll be able to plug in a picture on a computer and send it through and say, "Do I have a match?"

CP: Really? Really?

EB: But again, it all boils down to the same thing; they were able to show the structure of the DNA, which is the basis of all life, as far as that's concerned.

CP: (CP makes noise) That—that goes—

EB: This has been fun.

CP: Yeah. Whoa! Wait a minute.

EB: Oh you mean more?

CP: Yes, yes. Now technical questions since I got you here. The variability of this retrovirus, this AIDS virus and the way it can mutate so quickly by flippin' around some of the atomic structure; speculate on a successful vaccine.

EB: That, Prather, in 1987 and '88, in order for everybody in the health profession to renew their license, they had to—the state required they had to have a minimum of four hours of in-service training on the various aspects of the AIDS virus. And guess who was given that particular job?

CP: You of course.

EB: So I—

CP: You was the first lady with AIDS around here.

EB: I had to give—I broke it into two sessions of two hours apiece. We had to cover the legal, we had to cover the clinical, we had to cover the laboratory aspect and we had—we had a regular program that the state provided that we had to comply with all these things. And one of ‘em was the possibility of a vaccine. Getting back to your question.

CP: I knew you hadn’t forgot it.

EB: And in that particular lecture—and the videos are around somewhere, as lord knows—but I said, “Well now, how soon do you think we could have a vaccine?” Bear in mind, this is 1987. So I said, “Well, let me just emphasize something.” I was talking to someone in California; I have a few friends over there too, and they were absolutely amazed because one of the pathologists over there was doing the—the autopsies. He was doing exclusively the AIDS advanced cases of the young homosexuals of that time. And he was absolutely fascinated with this one particular case that he had posted. And he was able to isolate five different viruses of HIV from five different organs from this one patient.

CP: Oh boy.

EB: There were variations in these five different things, so I said, “With that—knowing that in mind, let me ask the audience. If you were going to make a vaccine, which one would you use? Which part of what virus would you use? Would you use the core? Would you use the mantle? Would you use—. What particular part would you use if one man dies and has five different variations of the same virus?” So I said—it’s 1987—“If, with luck, they have something at the turn of the century, we may be lucky. But they’re going to find it is extremely difficult because, where would you do field trials? Who would want to be subjected to something that’s a death threat? And where could you prove that this vaccine is going to work?” I mean there’s just so many chimpanzees running around loose. So consequently, the idea of a vaccine, it didn’t look good in 1987, and I hate to say this, but it doesn’t look good now.

CP: It looks worse now.

EB: It just doesn't look good now. I think their biggest instrument of prevention is one of the greatest and also the other aspect is the new treatments that are available with the beta—with the protease inhibitors and the various things that are working so well. And they have been able to accomplish so much. If they find a pregnant woman that is in the throes of various stages of HIV, that they are able to treat them, and successfully, because the baby does come out. And in most instances there's a very low incidence of conversion in the baby.

CP: Really? Through the treatment of the mother?

EB: Uh-huh. And (inaudible)—

CP: Yeah. And that's—that's welcome news; that tells us something.

EB: Yes. Yes. Very, very interesting but you—

CP: But the longevity of any of these drugs is profoundly limited.

EB: Worth—yes, yes, very much so because—when they first started with the protease inhibitors, they had 17 and of course, when you look at your—your combinations of the 17, and then we follow these patients that are in these programs. We have quite a number that we follow by doing viral loads. How much is this particular regime knocking the amount of virus down in this patient? And that's why—where they get the term viral load.

CP: Yes.

EB: And we have to monitor those people once a month. And with that combination, with the CD4, CD8,¹⁵ gives the clinician a pretty good idea of how the drugs are working. Now they want to be able to do—and we're in the process of setting this up—to do genotypes of the particular types of virus from that particular patient to see in—from other people's work—they've got a nice program set up. That if this particular virus is mutating in this area, that virus will not be susceptible to drug A, B, C, D, E. And that's what we're in the process of setting up right now.

CP: Fascinating. The technology just overwhelms me.

¹⁵Otherwise known as the CD4/CD8 ratio t-cell test, which examines the level of two types of lymphocytes (white blood cells), indicating the strength of the immune system and level of infection.

EB: Boggles the mind.

CP: Yeah, because I'm of the Pasteur ilk. The first breakthrough, I guess, was Pasteur's ability to grow bacteria and then all that happened from there. And now through a related field of being able to map out the DNA has opened us a very much larger field. What do you see as the next significant breakthrough?

EB: It's almost—

CP: In our ability to diagnose.

EB: I beg your pardon?

CP: In our ability to diagnose.

EB: I fully believe and I—it's going to be very similar to *Star Trek*.

CP: Similar to *Star Trek*?

EB: Very similar to *Star Trek*, because the way the molecular technology has advanced, I fully believe you'll be able to take a monitor to the particular patient—at the jugular site or something like that—

CP: Stick an instrument up there, no?

EB: Yeah. And—

CP: The oxygen concentration of blood overwhelms me, a little thing on your finger nowadays.

EB: Yup. Well—but—we'll figure like that when you go for surgery, they put this on there and they also have a flat little thing that you lie on and it'll give you your systolic

and diastolic blood pressure measurements. And now they have said that—where is it that they said that they take the babies temperature and it is better in the inner ear or something and you get a much more accurate thing? So actually, where will it go? It's almost anybody's guess because the—you know, you come to a certain point and all these doors are partially opened. All you have to do is be able to have the knowledge and the ability to go through the doors and establish things because they're there. I don't know from what I've gone through, and I've spent about fifty-some years in laboratories; what I've gone through, I think it's time for me to retire because I don't think my brain is programmed to absorb or to solve many more of these problems that come along.

CP: And I'm—I'm really impressed with your period of observation. And you've been a student of the change. And being a good student, you're a superb storyteller to relate it to us all. And you haven't used technical terms that overwhelm me, and I thank you for that. But if any of our listeners want the technical terms, they need to go to the library. Go to the library and learn the technical terms.

EB: Or get on the Internet.

CP: Get it on the Internet.

EB: (murmurs in agreement) They can also do that. CDC has a marvelous webpage. You can get on there and find out all kinds of things. All you need is the desire to want to learn and it's there.

CP: Yeah.

EB: As I tell my employees, "You can learn as much as you want to learn. I can never take it away from you. But don't waste your time; time is too short."

CP: Yes. What advice do you have to a budding student; a young student who thinks they might be interested in this fascinating since-fiction field called virology?

EB: Well, I usually tell them that they ought to spend some time volunteering in one of the laboratories, where they would be acceptable because some of the labs, of course, are off limits. And then, how great is their desire? Is it because they want publicity? Then I wouldn't do it. If they want money, forget about it. If they want prestige, you'd really have to climb a ladder and it's very difficult because there's too many obstacles in the way. But if you're really fascinated in studying this thing, then the sky's the limit. You

can—you can do—you can get the didactic—the didactic will take you to a certain level but then you've got to get in and work with these things and see how they relate. That's why I like clinical virology, because I could have so much input into the clinical aspect of the patient.

CP: The human aspect of it.

EB: Yes, yes.

CP: You like the human piece.

EB: I didn't particularly care [for] the patient contact, but I like the consultation aspect, with the physician and, "What could this possibly be?," or what I could suggest that he or she might be looking into.

CP: You're harking back to some of our earlier professional walk-together days when I would come to your feet and ask the same question. But what in the world do you think this might be?

EB: That's right.

CP: Do you remember?

EB: I remember.

CP: I don't expect you to remember those.

EB: I remember. I remember. Yeah.

CP: But I do with pride and appreciation.

EB: I remember. I also get fascinated with the physicians that call me and consult from all over the state. It's very interesting. And they call me and they give me the clinical picture and they ask what would I suggest. And I would give them several suggestions all

well and good. And I had one physician that called and asked me the exact thing that I just mentioned. And when I told them what I would suggest or what I would suggest, he order—he said, “No, I don’t agree with you one bit. Now let me tell you all well and good.” And finally he let on. He went on and on and on. Finally I said, “Doctor, to the best of my knowledge, you called me.” And he said, “Thank you very much.”

CP: Well, what have we left out?

EB: Oh, we haven’t left out very much of anything I think—oh, I do want to mention, while I was here, I believe it was in the 70’s, late 70’s, I was—when I went to graduate school, my professor, Dr. Budding, was trained at the Pasteur Institute. And consequently he was the one that not only taught me influenza and respiratory but he was also very, very fond of herpes simplex and the rest of ‘em. And he always told me that if I could find out the immunology of herpes simplex, I would get a Nobel Prize. They wouldn’t hesitate to give it to me. But I called him from Florida one day and I said, “I’m going to Paris and I want to go to the Pasteur Institute.” And he said, “They won’t let you in.”

CP: You’re a girl.

EB: That’s right. And he said that—he said, “They don’t like Americans and they’re not going to let you in.” And I said, “Well, okay Dr. Budding, how can we circumvent that? How can we get in?” He said, “Do you still have your World Health immunization card with all the rabies things on it?” And I said, “Yes I do.” He said, “That’s your ticket. That’ll get you in.” And he said, “Don’t call and make an appointment because they’ll hang up on you.” And he said, “Don’t get the concierge to call because he’ll hang up on him.” He said, “Get in a cab and go over to the Pasteur Institute.” (inaudible) he knows more. So I got in a cab and I went over and I got to the entrance and they said, “No visitors, no visitors.” So I said, “Oh, rabies.” And I had pulled out my World Health card. Remember, those were the long ones on the yellow ones and they said, “Ah! Open the gates.” And I’m thinking, “Dr. Budding was right.” And I told them that I spoke very little French. And they brought down a lady physician who spoke no English but in my broken French and what have you—she understood that I kept showing her the World Health card with all the rabies immunization, “Ah, ah, yes” everything. Everything, “*c’est bon, c’est bon.*” So I figured that I was in good shape. I spent eight hours at the Pasteur Institute. She let me go through Pasteur’s laboratory, she let me pick up the retorts he was using, she showed me his memo pads. When you walked out into the forest inlet where, before he died, she let me see all the things and then she said to me, she wrote it down because I could read it better than I can understand French, and she said—asked me if I would like to see Pasteur’s tomb.

CP: Of course.

EB: And I didn't even know he was buried there, let alone anything else. So we went down these—looked like a dungeon. And she had this great big iron key that opened this gate and I went into this room. And here was this white marble casket in this room that was approximately 14x14 feet. And three walls were solid gold filigree of three of his professions that he did in his life. One showed the rabid fox with the saliva dripping down. Another showed him saving the wine industry and the other showing his proficiency for chemicals, because he was a chemist by trade.

CP: That's right.

EB: And here was this white tomb, and she said that no Americans were allowed in there and no pictures were in there. And of course, I was just spellbound to see this—this magnificent mausoleum that—that no one—no one would see. And they wouldn't allow pictures. When we got back up to her office, incidentally she took me to a bistro for lunch and we had the onion soup and we had the French bread that they carried under their arms with the sweat on the outside. It tasted delicious. And we—then she wrote down and she asked me—she was doing some work to try to get some money from—donations from various groups in the United States, but what she needed to do was she needed a translation of a particular paragraph from the French to the English, would I be able to do it? And I said, "Well I'd try. I didn't know but I would try." And she handed me this typewritten sheet with this paragraph on it. And I looked at it and I almost passed out because the paragraph she had given me to translate was the one that had been given to me in the United States when I thought at that time I was going to go for my doctorate and I had to have the language of—one foreign language, and I had selected French. This was the paragraph that I had to translate for my dissertation for the rest of my education that I had had and corrected and whatnot. And this was the paragraph she had me correct.

CP: You're kidding.

EB: And of course I sailed through this and she kept saying, "Oh, marvelous, marvelous." You know and, "Oh, (inaudible)." And she was ecstatic, what she could give me and all this and all that. So she gave me a picture of Louis Pasteur. It's down in my office. And she gave me pamphlets of his. And she said, she wanted to give me a notebook and I said, "Oh my god, no, no, no", because it belonged in the laboratory. But I translated the thing for her. And it took me a few minutes because I had already done it. And I thought, "They will never understand what they—how I got through this thing, never understand." And of course, she told me to come back the next day, but I couldn't as far as that was concerned.

CP: When was this?

EB: I think it was 1974 or something like that.

CP: Seventy-four.

EB: That I had been over there. But she had—she—what do you call it—she was really, really a wonderful individual and she didn't speak one word of English but we had—

CP: But you all were communicating very well?

EB: Yes and I was exhausted. After eight hours in that laboratory, I thought I had never worked so hard in my life trying to translate.

CP: That's a lifetime experience though. And it would be for folks interested in—

EB: One of the—one of the rare—and you know what was so interesting, Dr. Budding, my professor in graduate school, trained—as I mentioned—at the Pasteur Institute. And you'll be very interested to know that the gatekeeper that used to let him in and out every day was the little boy that Louis Pasteur had saved and was one of the first ones that he used his experimental rabies vaccine on because, like they said, "Oh, he was a moron." But the point was, as Dr. Budding explained, because he knew the background of this man now, that the child was one of 14 or 15 and they were poor farmers. And the child was mentally retarded to begin with. And then when he went out in the woods and was bitten by the rabid animal and he was in the throes of what he caught. He asked the parents if he could, you know, try this vaccine; they said, "We give you the boy." They don't want him because they had all the others to feed. And he saved him and Pasteur was the one that created the position for him to open and close the gate. And as long as he lived, he would have that job and he also got room and board at Pasteur Institute.

CP: Oh that's fun.

EB: Unfortunately he was dead by the time I got there. (EB laughs)

CP: Miss Buff, this has truly been a glorious two hours with you.

EB: Oh lord, lord, yes it had, my lord!

CP: And—and on—

EB: You know, time goes so fast when you're having this much fun.

CP: That's right. On behalf of the College of Public Health and the University of South Florida, myself and Miss Duncan, I just say thank you sincerely for taking the time to spend some time with up.

EB: My pleasure. My pleasure.

CP: And we do thank you.

EB: And I expect all the royalties to be split between you and me.

CP: Of course. Of course. And I'm Skeeter Prather.

EB: And don't forget—and don't forget—and don't forget Jane, she needs some of 'em too.

CP: I'll give her a little bit.

EB: Okay. Thank you so much for inviting me. It was my pleasure.

CP: It's fun, fun, fun.

End of Interview