

# **HARRIET J. DEVRIES SMITH**

## **NASA ORAL HISTORY**

INTERVIEWED BY REBECCA WRIGHT  
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WRIGHT: Today is November 7<sup>th</sup>, 2001. This interview with Harriet J. DeVries Smith is being conducted as part of the “Herstory” Project, directed by the NASA Headquarters History Office. The interview is being conducted in Solano Beach, California, by Rebecca Wright.

Good morning and thank you for letting us come into your home and visit with you. I’d like to start today, if you would, please, just share some background about yourself and how you got started working with NACA [National Advisory Committee for Aeronautics].

SMITH: Okay. Well, I was raised in Bakersfield [California]. When I started high school, I had no plans of being an engineer. When I started high school, I was twelve years old, and this was back in 1946, so at that time girls were either going to be nurses, teachers or secretaries, and that was basically my thought. I started out thinking I was going to be a secretary.

Because I loved math, I was taking math courses as electives. I finally, because I wanted to be with my friends, I was taking classes with a lot of kids who were going on to college, so I switched my major to math and science. I started at Bakersfield College. I majored in physics, physics and math.

Again, physics was my favorite science when I was in high school. But at that time physics, the beginning physics, is really mechanics. It's really the basis for engineering. I should have gone into engineering at that time, but when I started college, now, this was in 1950, and we really didn't have very good counseling. It just never entered anyone's mind to suggest that I go into engineering. So I went ahead and went on to [University of California] Berkeley and got a degree in physics and math.

I started working at NACA in the summer after I graduated from Bakersfield College. It wasn't a coop program, I just worked the two summers there as like an aide. It was Mr. [DeElroy E.] Beeler, De Beeler from Dryden, came out to Bakersfield College and interviewed us. Actually, there were a group of us, and we were interviewed by the Navy at China Lake and the Air Force at Edwards Air Force Base and NASA, which was NACA then.

To show you or just to give you an idea of how the times were then, we all filled out the same applications, and the offer that I got back from Edwards Air Force Base was to come in and take a typing test, and none of the guys were. I mean, they were all offered jobs as engineering aides. That was the mind-set back in those days.

So I chose to work for NASA, NACA, primarily because they offered me one grade higher than China Lake did. I started out a GS-4. When I first came to the Edwards, I was put in an office with a bunch of women, and they called us computers. The guys that came were put into various engineering offices and were given jobs as engineering aides. So they really were given more of, in my view, a growth opportunity. They all worked on various projects.

As a computer, I just did routine math work, and I mean routine. I really believed at the time I could have done it with about a fifth-grade education. I did a lot of work on a Friden calculator. We read film, the oscillograph traces on film. We had little rulers, and we measured in inches and then we'd go to a chart, a calibration chart.

Roxanah [B. Yancey], Roxy, was the head computer, and she would give us these sheets of paper with columns. One column would be for the inches that we read off the film. Another column would be whatever that was in degrees, pounds, whatever. Then there would be a lot of mathematical calculations, and she had on the top of each column "column one times column two" or whatever. And I'd just sit for hours at the Friden calculator multiplying column one times column two and so forth. So I really did not find that job very challenging.

So at the end of the second summer, they asked me [if] I [was] interested in coming back and so forth. In this office of computers, there were women who had just high school educations and then there were some who had college degrees, and they all did the same work. And by this time I had discovered that a lot of the engineers did not have degrees in engineering, they had degrees in various sciences, including physics. So I thought, well, gee, I really felt like I would be happier working as an engineer.

So I told them, and they said fine. If I'm not mistaken, at the end of that second summer they actually transferred me into an engineering office. I know when I came back as a graduate, then I was assigned to an engineering project.

But as far as any interest in aviation, if the person who had recruited me at Bakersfield College had been a civil engineer, I probably would have been a civil engineer. I was never at any time in my education ever given any real counseling. I realized as a senior,

when I was taking the kind of physics that you take as a senior, that that wasn't what I wanted at all, but even then I didn't think I had the luxury of changing majors, because, for one thing, I didn't have a lot of support from my family. I was the first one to go to college. So I didn't feel like I could change majors at that point. I had to just press on. I got the degree in physics. It wasn't until much later that I went back to graduate school and got degrees in engineering.

Well, why don't I stop here and let you—

WRIGHT: You spent two summers at [NACA] Muroc [Flight Test Unit].

SMITH: Muroc, right.

WRIGHT: And then you had an opportunity to go back full time?

SMITH: Yes.

WRIGHT: Can you tell us how that happened?

Smith: Well, actually, at the end of my second summer, I actually went on leave. In other words, I was a government employee in my senior year in college, which actually helped me later. So there was no big transition. I just came back. The only thing was the pay was a little higher, but not much.

I can still remember exactly what my paycheck was. When I was a summer student, my paycheck, after everything was taken out, was \$94.07 for two weeks. Now, that included my room was taken out of that. We stayed in dormitories, and the cost of the dormitory was \$3.46 a week, \$7.92—no—yes, \$6.92 for two weeks. That was taken out of my paycheck.

So the only thing I had to buy was food and any entertainment, which was very little on the base. Movies were a quarter. We could go bowling for a quarter. So everything was pretty cheap. So, out of the \$94.07, I managed to save \$70.00 every two weeks to put toward my education.

When I came back after I got the degree, my check was \$97.56. [Laughs] Big pay raise. But part of the reason it was so small is that at this point I was having civil service retirement taken out, rather than social security. At that time social security was very small. But anyway, that was my paycheck for two weeks.

I didn't have any real expense those summers when I worked there because I didn't have a car. Roxy was given the use of a government car to take us to work, because we lived right there on the base and it wasn't very far. The second summer, I guess, for some reason they took that away from her, but then she bought a car. I always managed to get a ride with somebody, so I didn't have any car expenses.

When I graduated, of course, then I did get a car, and that's when I realized that I really didn't make a lot of money. [Laughs] Summers it seemed like that was a lot, and that was. This is another thing. Most of that time I sort of compared myself with other girls, and I made a lot of money that summer compared to what the other girls could make. And even after I came to work as an engineer, even though it wasn't very much, and later on I didn't make the kind of money that the guys—they got better promotions than I did, it was part of

that culture at that time, that kind of a mind-set with me that I wasn't aggressive. I don't know if you can understand that.

WRIGHT: Did you feel also there wasn't any avenue of approach? There was no one you could really talk to to make a difference?

SMITH: I really didn't have a mentor at that time, and I was the only woman that worked there as an engineer. There was a woman engineer there that first summer, and she got married and left. So when I first came there, I was the only woman. The office that I was put in working with the engineers, it was on the X-3 Program, the engineer, one particular engineer, used me as his private computer. I mean, I was doing a lot of the same work that I had done as a computer, but of course I was doing it on my own projects, which made it a little more interesting, but then he had me do his calculations and everything, too. I don't think that would have happened if I had been a man.

I don't think I had the kind of assignments, and I didn't really know what I wanted. Again, like I said, I had no real interest in aviation at that time. It was something that just kind of grew later. But I didn't really know what I wanted.

Women at that time were expected to get married. The men, the management there, expected that, too. In fact, John [Smith] reminded me of one situation where one of the women there, Katharine [H.] Armistead, who was up for promotion and she didn't get it. Her supervisor explained to her that there was only a certain amount of money available for promotions, and the guys there had families, and it was more important that they got the promotions. They were open about it at that time. That was before the equal rights and all

that. So the fact that I didn't get the kind of promotions and the assignments and so forth, I didn't complain. So I can't really blame the men, the management there. I mean, I was part of that same culture.

WRIGHT: Did you go back after your summer terms there and continue? You mentioned that you were already a civil servant, that you had just taken leave. Did you have any other options, or did you want to pursue any other options other than going back to the Flight Center?

SMITH: No. I didn't really know where else I could go. See, this goes back to, I think, the kind of the lack of career preparation that women get.

JOHN SMITH: Got.

SMITH: Hm?

JOHN SMITH: Got.

SMITH: Got. I mean, I had no idea. Like I say, whoever recruited me when I was college, that's where I was going to go. I took the best offer that I had, and I never really looked anyplace else.

WRIGHT: Once you were there as an engineer, at what point did you feel they started to treat you as an engineer and not just a woman computer in an engineering office?

SMITH: Well, it was a gradual thing, and it also depended on the individuals. I don't want to say that all of the people there treated me like a computer. There were a number of men there who, I think, were supportive.

It wasn't really until after I had been there for several years that I decided to go back to college and I got my master's in mechanical engineering. Then I also got an engineer's degree in aerospace. That, I think more than anything, gave me the confidence to go back.

You see, the fact that I really didn't know a thing about airplanes when I first came there, that held me back. When I went back to college and got these additional degrees, the main thing it did for me was give me the confidence. I found that I already knew most of the stuff, but it's getting the formal education and thing that you do know it.

Then I went back, and that at that point I started applying for other positions, and that's when I got into project engineering.

WRIGHT: You mentioned you had gone to high school at twelve. So what time period in your life were you out at Muroc?

SMITH: I was twenty when I got out of college. I graduated from Berkeley at twenty in 1954. That was a totally different time. Years later when NASA started hiring more women engineers, some of these women engineers had degrees in aerospace engineering, and they knew exactly what they wanted. I think that's when I realized that to an extent, I was

treading water a lot of those years. One thing too, at this point I was married. I had a child. As my daughter was growing up, most of my interest was in my family. So it wasn't until she got older. She went to college at the same time I went back to college, and so that was kind of nice.

But then when I got back from college and went into project engineering, I first was an F-15 project engineer and then I got the opportunity to be the F-14 project manager. That's when I really started enjoying my job.

WRIGHT: Tell us about those opportunities. How did that materialize? What were you doing right before you moved into those projects?

SMITH: I did a lot of different things. I never really stayed on one thing. In the beginning, it seemed like I did a lot of things that involved theoretical calculations. I wasn't really involved in a program closely until I got in with the Lifting Body Program. But before that, I calculated flow fields around the X-15, but I wasn't part of the X-15 project. I did a lot of calculations of aerodynamic coefficients on different shaped wings, a lot of that kind of thing. Because I was probably better than the average engineer at that time in math, they gave me a lot of that kind of thing to do. But it also kept me out of sort of the mainstream of the projects. So that, I think, hindered me as far as getting ahead, because, well, I felt a lot of times somewhat isolated.

When I started working on the Lifting Body project, that was kind of a fun thing to do. I have to tell you, I'll give you another example of sort of the prejudice against women at that time. When I was working on the Lifting Body, Bikle, Paul [F.] Bikle, was the director

there and he was a real male chauvinist. He said that women could not go out in the hangar because it bothered the men. So I had to have all of my liaisons with the technicians and the mechanics and so forth, I had to go through one of the other men engineers.

At one time I had a problem. I was doing some work with getting aerodynamic coefficients, and I was having a problem with the data. It just didn't look right. The side slip seemed off. So I asked him if he wouldn't please have them calibrate it again. He came back, and he said, "Well, they calibrated it once. There's nothing wrong with it." But anyway, he went ahead and did it, and still I couldn't figure it out.

So finally I told him, I says, "It just looks like there's about a three-degree shift in this."

He looked at me kind of funny and he says, "Well, didn't you know the boom was set off three degrees?"

I said, "No. Nobody told me this."

See, this is the kind of thing by not being able to work directly with the technicians, that was kind of a hindrance.

WRIGHT: When did you find that that changed, or did it change before you left?

SMITH: Well, for some of the men there, it never changes. Paul Bikle finally left. When Ike [Isaac] Gillam was the director, I think he helped me a lot. He encouraged women and minorities because he was a minority. So a lot of it, I think, changed with him.

Another example of the kind of discrimination against women that I thought was very interesting, they had a big X-15 conference, and they were going to have lunch served out in

the hangar. Paul Bikle decided, I guess to save money, he was going to have all the women wait tables, all the women, including the engineers.

Bertha [M.] Ryan was there at the time, and she knew Paul Bikle personally. So she went to him, and she said, “You know, I’m kind of clumsy.” She said, “I’m liable to spill soup all over this guy and then later have to work with him in a professional capacity, and he won’t take me seriously.”

So Paul Bikle thought about it and decided she was right. So he exempted Bertha and me from being waitresses.

WRIGHT: That’s a shame that’s a highlight of your career there is to be exempted from being a waitress. [Laughs]

SMITH: I know. But you see, that was the kind of thinking at that time. I don’t remember the exact year that was.

JOHN SMITH: It was about [19]’62 or [19]’63.

SMITH: ‘62 or ‘63, okay.

JOHN SMITH: I was there. I got to have dinner.

WRIGHT: And not be served by Bertha or Harriet. [Laughs]

SMITH: Anyway, it took a long time. When I was talking to John, as we were going over this, he said but a lot of it started changing when some of the people who were in management positions when I got there finally were retiring and dying off. As the new management came in, they were younger and they had a different attitude. But the guys who were in management positions when I first came there and for the first probably at least ten, fifteen years that I was there, were very male chauvinist.

The flight-test business is very macho, so that didn't help either. I think I probably had a harder time in that respect at Dryden [Flight Research Center] than I would have had at any of the other NASA centers, because, as I said, pilots are macho. I know when I was project manager on the F-14, I worked with [NASA] Langley [Research Center]. I don't know that that was so much a bias against women, although I think that entered into it, but Milt [Milton O.] Thompson, who was the, I guess—

JOHN SMITH: I think at the time he was something like technical director.

SMITH: Whatever. Some kind of, I thought—

JOHN SMITH: Chief engineer.

SMITH: Chief engineer, I think, was his job. He felt that I should defer all technical decisions to the Langley people, and I didn't see it that way. But, see, by this time I was a little more aggressive. [Laughs] I worked very well with my team. My pilots supported me completely. I got along great with the engineers on the program. They all supported me, and I

supported them. And I wanted to do some of the things that this one engineer wanted to do, and it didn't set well with the Langley people.

So Milt Thompson felt that I should defer to the Langley people. I got my job description out and I looked at it, and it said basically I had the technical responsibility for the program. So I highlighted all these things, and I made a copy of it, and put it on Ike Gillam's desk. I guess Ike must have called in Milt, and Ike totally supported me. Milt looked at me kind of sheepishly later. [Laughs] Ike was very supportive.

As I said, things change. I know that today at Dryden it's much different for the women. There are a number of women there that have risen to high positions. It's good.

WRIGHT: Did you expect to be named as the project manager, or was that a pleasant surprise?

SMITH: At that time, projects was a special office. I applied for a project engineer's job. It was the F-15 project engineer. I was selected for that. Then once I was in projects, then I was just assigned the project management job on the F-14.

WRIGHT: Were you the first woman to—?

SMITH: I was. I was the first. In fact, I was the first woman project engineer and the first woman project manager. It was challenging. I thoroughly enjoyed my job at that time. It was very interesting.

WRIGHT: Were your days long? Did you end up putting in more hours?

SMITH: Yes. Yes, I did, and loving it. I think when I first came there, if I had been assigned to an interesting project, not just a small piece of a project off by myself, but I mean if I had been part of a project team on an exciting program, I think it would have probably speeded me up a lot as far as getting really interested in the job.

Then it was while I was project manager that Dryden became part of [NASA] Ames [Research Center], and in looking back on it now, it was probably one of the best things that ever happened to me, because during that time an opportunity came up to work as a congressional staffer. They wanted somebody preferably with a project background. So they asked NASA to—well, the reason they did, in Congress the Republicans at that time were the minority, and the senior minority person on each committee gets one staff person.

Barry Goldwater, Jr., was the Republican on this committee, and his staffer was leaving. The committee didn't really want him to hire somebody else because he wasn't going to be there very long. So they said, "Why don't we go to NASA and get just somebody to fill in, just a detail." So they asked Dryden. So there were several of us applied for it.

The management at Ames was in charge of narrowing it down, and they narrowed it down to two of us. We went back and were interviewed by the congress people, the staffers and the congressmen, and I was selected. I really believe, I'm absolutely totally convinced, that if it had been up to the existing Dryden management at that time, I would not have been selected. I know that.

WRIGHT: Did they want to you keep you there or just—

SMITH: No, I just think they would have sent one of the guys that they thought was going to be management potential and all this sort of thing.

After I had been there a year, there was an opportunity at Dryden to be the deputy project manager or deputy—

JOHN SMITH: Deputy director.

SMITH: Deputy director of projects. This was opening up about the time my year was up at Congress, so I applied for it. While I was still back there, John called me, and he said that he had been asked to sit on the review board to select the person. He said, “How can I do that when my wife has applied?” See, they had not even put me in the qualified pool.

JOHN SMITH: Highly qualified.

SMITH: Yeah, whatever they call. The guy who I beat out for the job as the congressional staffer, he was in there. I realized that all the time that I had been working at Dryden, whenever there was any kind of a management position that opened, it seemed like the guys who had had any kind of outside experience, particularly like if they had gone to [NASA] Headquarters, that gave them a tremendous leg up. They usually got the job.

And here I'd had an experience which went beyond what any of them had had, because I worked on the committee that authorized NASA's budget. I worked with NASA

Headquarters in working these budget things out, so to think that they hadn't even put me in the highly qualified pool made me realize that I had no future there.

So that's when I left. The people at NASA Headquarters wanted me, because I had been working with them as a congressional staffer. So I transferred, went to work at NASA Headquarters, and I was just there a few months when the congressman who was now the ranking Republican called me up and asked me if I wanted the job on a permanent basis. Absolutely. I loved working for Congress, so I went back.

WRIGHT: Tell us about those days now. Did you commute back and forth?

SMITH: No.

WRIGHT: Did you end up living—

SMITH: Yes. The first year I got an apartment in Virginia, and I'd come home as often as I could, and John would come to Washington when he could. Then after I decided to stay there, then he got a job at NASA Headquarters. Then later we bought a home there in Alexandria, Virginia.

JOHN SMITH: There was a condition on it, which she hasn't—

SMITH: Well—

JOHN SMITH: I said that I would come back on a temporary assignment for a year, and if I really found something I liked to do we could stay, otherwise she'd come home. Because I had a good job back at Dryden.

SMITH: Yeah, but as far as I was concerned, I was not coming back to Dryden. I mean, I really felt that I had been treated very unfairly when I tried to get that projects job. Again, it was the people who were involved were still some of that same management. They're all gone now, and they were gone shortly after that, but it was just some of the remnants of that past culture, that they did not view a management job, that high a management job as something that a woman could handle. Today there are women in those positions.

WRIGHT: Your first project team that you were talking about, how many people were you responsible for? Did you have budgetary? Was everything included in that first job?

SMITH: Right. Project management at NASA, it's different. It's kind of interesting. They gave us a class. All the project managers took this class in management, in project management specifically. All of us thought it was a total waste of time, and we pretty much said so. We were asked later to fill out a form, and we all said that it was a total waste of time. The guy got rather angry about it, because I guess the NASA people showed him the results.

But the reason is, is that we don't have, or we didn't have, control over all the resources. In other words, we couldn't decide to, for example, contract something out or put

more people on this, spend a little more money here. We didn't have those kind of options. We were assigned people, and that was it, and we did the best we could with all we had.

We did have money, a budget. I was able to get a travel budget, my own travel budget. I think I was the first one that ever got my own travel budget. NASA was very strict on their travel, and the NASA travel office kept it. This was the F-14 Program, was a joint program with the Navy. I was able to get the Navy to give me a pot of money for travel.

WRIGHT: That was quite an accomplishment itself.

SMITH: So that I could go back and forth. Because I had to meet with the Navy people a lot and also the Grumman [Corporation] people in Long Island [New York]. I knew that I was going to have a constant battle trying to get my trips approved. So I was able to persuade the navy to set up a special travel fund for me.

WRIGHT: In that position, how was the reception when you were speaking with Grumman and with the Navy people? Did they accept you in the position?

SMITH: Oh, absolutely. The first Navy person that I worked with, they called them the class desk, that was their title. It was a commander. He's a retired admiral now, lives here in San Diego, and we're still good friends. [Laughs]

WRIGHT: That's fun.

SMITH: I had a little trouble with some of the Grumman people. I don't think that was because I was a woman, although I thought some of them might have thought that I was going to be easier to push around because I was a woman, but mostly they liked working with the Navy. They did a lot of things. The Navy just gave them money. A lot of times they didn't really watch what Grumman did. NASA was, I think, much better at overseeing those kinds of things. I watched Grumman very closely. I knew what they were doing, and I think sometimes they got a little angry at that. But I had the total support of the Navy, so it went well. I think it went well.

WRIGHT: Do you feel the people at Dryden, your management or maybe others, other than your management, seemed to scrutinize your work more than they would have somebody else's?

SMITH: I don't think so. Not at that time.

WRIGHT: Well, they must have thought you were doing a good job, because they gave you another project site.

SMITH: Yeah. Well, the first one was the F-15. I worked then with the F-15 project manager, and we got along fine. He ended up making me his deputy project manager. So I had had some of the management experience before I got the F-14 job.

WRIGHT: Were you watching more women come in to work for Dryden at this time?

SMITH: Yes.

WRIGHT: Did you see more coming other than secretaries and aides?

SMITH: Yes. Oh, absolutely. In fact, that's probably had a big effect on me. John had a woman working for him that he made one of his branch chiefs. I think she's probably the first one, but there were other women coming in, a lot of other engineers coming in. At that time I wouldn't say very many of them really got a lot of the opportunity either, maybe somewhat better than I did, but really not that much. It was even later, I think.

I don't know how it is now, except I do read the little Dryden paper, and I see a lot of women in top jobs. But when a lot of these women came in and when I saw, well, this one in particular getting ahead and some of the others also, I saw them going faster than I had, that was, I think, a time when I sort of reinvented myself, if you will. See, my daughter was getting ready to go to college, and, as I said, when I went back to school.

WRIGHT: Just time for a new phase of your life.

SMITH: Right. I think it was a little bit of a challenge to me in that when I came back I was—it wasn't a sudden thing, but I decided, "Enough. I'm going to start applying for these positions," and I did. I started applying for a number of positions. Up until then, I hadn't aggressively pursued anything, and now I was. I think it took a little time to, I'm not sure if it's it the right word, but get their attention.

WRIGHT: Because you had changed and in their eyes—

SMITH: I was still just the meek little Harriet that would sit in the corner and do all these mathematical calculations. [Laughter]

WRIGHT: Now here was the Harriett that wanted—

SMITH: I mean, I'm exaggerating.

WRIGHT: No, but now here is the Harriet that wanted the opportunity to do more.

SMITH: Right. Right.

WRIGHT: "Give me more. I can do more."

SMITH: Right.

WRIGHT: Did you have a favorite project while you were there?

SMITH: Well, the F-14.

WRIGHT: And how long of a span was that in your life? Not hours.

SMITH: No. Let's see. I guess it was like [19]'78 that I got that job. Then I left to go to work for Congress in [19]'82. I worked on the F-15 from [19]'77 to [19]'78. There were other things that—it's hard to remember going back and all the different jobs that I had, and there were certain times that I enjoyed my work a lot.

I worked with a guy, Larry [Lawrence W.] Taylor, [Jr.], for a number of years, and he was a very challenging person to work with, and I really enjoyed working with him. Again, at that time that was when computers were coming in and we did a lot of work. We did a lot of our own programming on the computer. We were doing, oh, it was called human describing functions, where we would try to mathematically model a pilot. Those things were interesting. They weren't part of the mainstream of Dryden, though. I enjoyed doing it, but like I said, it was not part of the mainstream.

Then I got into—we were doing a lot of derivative calculations using flight data and some programs that were developed. Mostly it was Larry and a professor at UCLA, and I worked in that area. That was very interesting. So, as I said, over the years there were a lot of things that were interesting. But it wasn't until later that I really got more involved in the mainstream activities at the center.

WRIGHT: One of the things when I was reading over some of the history that we had on you, you were able to help with one and then actual author a publication in the mid-fifties. Was that quite an accomplishment during that time for a woman to have done that?

SMITH: Well, see that was the first job I was assigned to. I was put in this X-3 loads office. I don't know that that was—I did not find that terribly exciting, frankly. That was when I was working in the office with the guy who was doing the X-3 wing loads. I was doing the horizontal tail loads, and he was working on the wing loads. And I was doing a lot of his mundane work. Writing the report, I did not find that overly challenging. It was because we had so many models to work with, so I looked at other reports and just—

WRIGHT: Just did it.

SMITH: —wrote up the data. I wrote a number of other reports, and I was trying to remember what some of them were. I know I wrote one on supersonic flybys and computing the flow. Then I did a lot of work on the wake vortex, when like a small aircraft gets in the wake of a large aircraft landing. I did a report on that. Then I did a paper on—well, I know I did a couple papers, I think, on the Lifting Body.

WRIGHT: You were involved somewhat in that project.

SMITH: In the Lifting Body. Yeah, I was working on that project. Bertha Ryan was there at the time, and she and I were both working on the first one, was the M-2/F-1. That was when I had the problems with [Paul] Bikle not letting me go in the hangar.

Then the next lifting body was the HL-10. Then I left the program. That's when I started working with Larry Taylor on some of these other things. I wrote some papers with him and at least one by myself on these describing functions. I gave a paper at MIT at the time on

that. I wasn't as prolific as some of the engineers, but I wrote a number of papers. I just can't remember now what they all were.

WRIGHT: Was this all part of your normal day activities or was this something you had to do on your own, on your own time?

SMITH: No. Although one of the things that always kind of bothered me about NASA is that the management there sometimes will just edit something to death. I made a comment once about one of my bosses, that he couldn't read anything without a pencil in his hand. And I was not the only one. This was not a sex thing.

This Larry Taylor that I worked with, he used to just laugh. He said that there was this one guy in particular that always had to make a change. It was like he had to show that he was the supervisor or it was just he couldn't pass something without one little change.

So this one time Larry wrote something that was fairly short and simple, and we all went over it. We all agreed that there was nothing that really needed to be changed. So we had a little bet that we could finally get this through this guy. We couldn't. He had to make one little change.

So when I wrote this paper on the wake vortex, it was going to be just a technical memorandum [TM], so it didn't really need the kind of scrutiny that a report would get. I mean, they were published in-house there at Dryden. So I wrote it and I typed it myself at home. Now, this is before I had a word processor. I had an electric typewriter. I typed it all at home. I brought it to my boss, and he had a bunch of changes.

So I went back, made the changes, went home and typed it all up again, and brought it back to him. He went over it and had a few more changes.

I said, "Now, this is okay?"

He says, "Yeah."

So I went back and typed it all up, and then I took it into the editorial office. Then they have to go over it. She says, "Now, has so-and-so, your boss, has he gone over it?"

I said, "Yes. Twice. I made all the changes."

So she went ahead and made whatever changes she needed. They typed it up and published it. Like I say, it's an in-house publication, but it has a cover and so forth.

So I gave my boss a copy of it, and he's thinking this is still subject to review and he starts making changes. I said, "You know, that's it." [Laughs] And he was a little irritated.

I did this. I had this whole thing out like in a couple of weeks after the data was in. Normally it took months and months because of the review process, not because anything of value was added. It was just some of the guys there had to review things and review them and change a word here and there. This, I felt, if it didn't get out for months, it would be so dated, it wasn't worth it. It wasn't going to be something that was going to be in—

WRIGHT: Stop the world?

SMITH: Right. It was just, as I say, they were called TMs, and it didn't need the kind of scrutiny. Obviously it had to be reviewed for accuracy and all that, and it was, but to wordsmith it to death, I just decided it wasn't worth it. I really, in all honesty, and maybe I shouldn't be saying this, but I really kind of believed he did want to review it again, but I did

ask him. After his second review and I made all the changes that he required or requested and I said, “Now, okay, this is it?” But he really, I think, believed that I was going to show him another copy that he could mark up again. [Laughs]

WRIGHT: Did you find some of the same situations when you moved to your congressional aide job?

SMITH: No. This was so interesting, because the congressman that I worked for, the first one there that I worked for, Congressman [William “Bill”] Carney from New York, he was just a delight to work for, and he trusted me completely. He commented many times on how it just seemed like I could read his mind and knew just what—I had to write all his speeches and things. I could write a speech for him that he was going to give at a hearing, and he wouldn’t even read it before he gave it. That’s how much he trusted me.

WRIGHT: What a vote of confidence for you.

SMITH: Yes. Then after I worked there for a year and then I went to work back at Washington Headquarters, they were worse than Dryden as far as wordsmithing things to death. I mean, they gave you no artistic freedom at all. It was such a change from having worked in an environment where I could put words in a congressman’s mouth.

Something else interesting, EEO [Equal Employment Opportunity] laws don’t apply to Congress. They make all these laws for other people, but they don’t apply to them. But in all honesty, they don’t need to. There was absolutely no discrimination at all when I worked

on the committee. It didn't matter, you could be black, white, woman, man, it didn't matter. You just had to please your congressman.

WRIGHT: What was name of the committee you worked for?

SMITH: It was the Science and Technology Committee initially, and then they changed it to the Science, Space and Technology. First I worked on a subcommittee, and it was the Transportation, Aviation and Materials.

JOHN SMITH: TAM.

SMITH: TAM. Transportation, Aviation, and Materials. We oversaw NASA's aeronautics budget.

JOHN SMITH: She had oversight on my budget when I was at Headquarters.

SMITH: Also the research part of FAA's [Federal Aviation Administration] budget and a little bit of the materials. Well, I was trying to think of what department that was.

JOHN SMITH: Commerce?

SMITH: Yeah, I worked a little bit with Commerce, but also—what was the committee that [Manuel] Luhan went to?

JOHN SMITH: Interior.

SMITH: Interior.

JOHN SMITH: He was the secretary.

SMITH: Secretary of Interior. I worked a little bit with the Interior Department, but it was mostly NASA. We spent a lot of time with NASA's budget.

Then later I moved from that subcommittee to the full committee, and I worked then with Congressman Luhan, who was the ranking Republican on the full committee. Then I got more involved in the space side. In fact, at that point my title was Republican aerospace consultant. Congressman Luhan had several staffers to work different areas, and I worked the aeronautics and space.

So I was there at the time of the Challenger, and our committee investigated that. We wrote a report, and I was the chairman of the management group on the Challenger report. So that was interesting.

WRIGHT: What did your duties encompass, what exactly? Could you give us some more details about what you did there?

SMITH: Well, we interviewed a lot of the NASA people to find out how they went about signing off on flights and this kind of thing, to see where they could have done things

differently, maybe tightened things up. Then there were, I guess, three groups. We put out a big fat report, which I always wonder how many people read those things. [Laughs]

I guess I don't know that I could see anything really that NASA could do differently, other than they pushed too hard. There was at that time a great deal of emphasis on trying to make the Shuttle a routine transportation. I think that that kind of filtered all the way down, and they probably weren't as cautious as they could have been.

WRIGHT: Were you working closely with the [Chairman William P.] Rogers Commission [Presidential Commission on the Space Shuttle Challenger Accident] or were you a separate—?

SMITH: We were separate, but we met with him, with Rogers, not his whole committee. But he would come and meet with our committee.

WRIGHT: Certainly a different time in your life than just a few years or before.

SMITH: Right. Right.

WRIGHT: What a different scope that you were working on. How long were you in this position?

SMITH: Well, I worked for the committee from [19]'82 to [19]'89. I retired in '89, and I probably would have stayed on, but Congressman Luhan—this was in the fall of [19]'88

when George [H. W.] Bush was elected president. I also worked on his committee. He had a committee to advise him in space matters, and I was on that committee, which was kind of fun. I helped him to write one of his speeches, just a little piece of it.

Let's see. Where was I? Oh, I was going to say why I didn't stay on. When he was elected, Congressman Luhan was a very close personal friend of George Bush's, and he was about to retire from the Congress, so he went to work for Bush. He was the Secretary of the Interior. Congressman [Robert S.] Walker then became the ranking Republican.

His staff person then, who was going to be the director of the committee's Republican staff, he had been the space subcommittee staffer. So he and I were always sort of at each other's throats, because he worked for the subcommittee ranking Republican and I worked for the committee Republican. We didn't get along at all, so I was out of there.

I mean, once he became the staffer and Congressman Walker was the ranking Republican, I no longer had a job in that committee, I mean as far as Republicans. I was offered a job by the chairman of the committee, who was a Democrat, and he liked me, and he wanted me to stay on as his staffer. But it just happens I am a dyed-in-the-wool Republican. It was probably a coincidence that I went over to work on the Republican staff, but I really fit in there. I just didn't feel real comfortable working with a Democratic staff.

I was old enough then to retire, or I would be. I turned fifty-five in March, and so the ranking Republican let me stay on until March so that I could retire without having to take a cut.

JOHN SMITH: But you didn't have to do work all the time.

SMITH: No, I really didn't. I had a lot of leave, and I was taking it. I had a good time that month. One of the things that was a lot of fun with that job, too, is that I got to do a lot of foreign travel. You've heard of these junkets. I got to go on a lot of junkets.

WRIGHT: Is there some that are more outstanding than others that you were able to—

SMITH: Yeah, the one to China. We were only the second U.S. delegation to China, official delegation. Casper Weinberger was the first. I went with Congressman Luhan, and then the committee chairman went, and just a couple staffers. We got to go out to the launch site. We were the first ones to see the launch site where they launched the Long March. It was very primitive compared to Houston. Their control center was very spartan. It was very interesting. Well, just the whole trip, we got to see things and do things that I wouldn't do later.

John and I have been back to China, but not into the Mainland. We went to Beijing, and then we went to Xian, you know where they had buried all those horsemen, terracotta. In fact, they gave Congressman Luhan a little terracotta man. Do you see it sitting down there?

WRIGHT: Yes.

SMITH: Manuel said, "What do I want with this?" So he says, "You want it?"

So I said, "Sure."

They had given me a silk scarf, and I don't wear scarves, and his wife, Jean, did. So I said, "Here. I'll make a swap." I gave him the scarf. Because they always give you little gifts and things, so I got that. That was real fun trip.

Then we went to Genoa. We went to Italy. All these things, this is—

JOHN SMITH: Japan.

SMITH: Yeah, we went to Japan. These things are such a joke. Taxpayers really ought to be a little more concerned about these things, because the congressmen would decide where they wanted to go. Now, this was not always the case. The one to China, I think actually there was some real serious interest in going there. But a lot of times they just want to go on a trip. They take their wives with them.

When we went to China, the wives weren't there. It was just the staffers. It was a much different trip. But most of them, they'd take their wives along. They would decide where all they wanted to go, and then they would have one of their staffers put together kind of an itinerary of where all to go to oversee something.

WRIGHT: The rationale.

SMITH: Right. The rationale always came afterwards. But anyway, who am I to say? I mean, this one staffer who was the committee staff director, the Republican staff director, he decided he didn't want to do it. He thought that was obscene. But he soon learned that him

standing on principle wasn't going to save the taxpayer a nickel, because they were going to continue doing it. If he didn't go, somebody else would. So he started going.

WRIGHT: Certainly a long way from the Edwards Air Force Base and the sands around them, wasn't it?

SMITH: Right.

WRIGHT: You could have still been in one of those offices, and here you were in China. That was quite a stretch.

SMITH: It was also kind of interesting at Dryden they had this program with FAA where they were testing some kind of a fuel additive so that if an airplane crashed, that the fuel wouldn't burn. They had been doing a number of tests, and we had gone out to FAA's headquarters in—

JOHN SMITH: Atlantic City [New Jersey].

SMITH: —Atlantic City, thank you. My mind. They did a test for us there. These were all kind of static tests. But the big test was going to be at Dryden, and they had this old airplane. What was it?

JOHN SMITH: A 720.

SMITH: A 720. They were going to fly it as a drone. Who was the pilot?

JOHN SMITH: Was Bill the pilot?

SMITH: No, no, no.

JOHN SMITH: Probably—

SMITH: Tall, older guy.

JOHN SMITH: Yeah, Don—

SMITH: No.

JOHN SMITH: No? Fitz [Fitzhugh L.] Fulton.

SMITH: Fitz Fulton. He was the pilot, and he flew it from the ground. They flew it in. They had some posts or something, and they had to fly it to break the wings and crash the airplane, and then they were going to show that the fire would just immediately go out.

So Congressman Carney and I—this was when I was still with the subcommittee—Congressman Carney and I came out to try to watch it. That was an interesting experience

for me because the management there treated me much differently when I came back as a staffer with the congressman. [Laughs]

WRIGHT: I bet.

SMITH: But anyway, the test, it was kind of interesting. I don't know if you remember anything about it, but it crashed and it burned. Elizabeth Dole was out there, too.

JOHN SMITH: She was head of FAA.

SMITH: She was head of FAA at the time. We watched that thing burn and burn, and it just burned for hours and hours and hours. Of course, the FAA people were all distraught. The company people who had come up with this additive, as far as they were concerned, the test was a failure.

They even blamed Fitz for not flying it just right, because I guess it had sheered the engine or something. If you'd done it a little bit differently and it hadn't done that, the test would have worked. I'm sitting there thinking that was the most absolutely ludicrous attitude, because the test was to determine if it would work, and they proved that it didn't, and they saved the taxpayers millions of dollars because they didn't have to put this additive in. I mean, how could they possibly have said it was a failure? I mean, a test like that, by its very nature, isn't going to be a success or a failure. It's only a failure if you don't learn anything.

WRIGHT: That's right.

SMITH: But I thought it was wonderful. They had a hearing about it later in our committee, and of course a lot of the members of Congress, they thought, "Oh, God, it failed. Why did it fail?" They wanted us to look into why it had failed.

I wrote this speech for Bill—and he was the ranking Republican—which basically said that the test was a huge success. [Laughs] It kind of got their attention. I mean people, they were thinking that this was just going to rubber stamp this additive, this process. Instead, we threw it out.

JOHN SMITH: It also involved quite a bit of modifications in the engines.

SMITH: That's right. Oh, it was going to be—

JOHN SMITH: Very expensive.

SMITH: Yeah, it was going to be a very expensive retrofit to do this. It was not a cheap thing. But there's a lot of congressmen who they want safety at all costs. One of their speeches, "How can you put a price tag on a human life?" and this kind of thing. Of course FAA does it all the time. They do cost-benefit analyses. You have to. But congressmen, they can make these speeches, and they do it on prime time with all the TV cameras in there, and they thought they were going to have this wonderful thing that was going to save all these lives. I thought NASA did an outstanding job on that test.

WRIGHT: That's what tests are about, right?

SMITH: That's right.

WRIGHT: Not only have you had an adjustment in work atmosphere, but leaving Dryden and moving to D.C. was quite an adjustment as well.

SMITH: Yeah. Washington, D.C., it's an interesting place to live. Well, it's an interesting place to work. I didn't live in D.C. I lived in Virginia, and we commuted. But that whole area, northern Virginia, it's all in the Beltway. I mean, I know personally what it means to be in the Beltway or out of the Beltway. We lived in the Beltway. It's exciting.

In fact, I had kind of withdrawal pains when I came back, because everybody here, they kind of pooh-pooh Congress. They think all congressmen are dishonest and they don't do anything and congressional staff doesn't do anything, and that's just not true. Congressmen work very, very hard.

The thing that I think they ought to do is to come up with ways of not giving them so many benefits other than their salary. They should make more money, but they should not have the power to do things that—the lobbyists do things for them. That's the kind of thing that's bad, and I think it kind of corrupts.

But most congressmen are basically very honest. They want to help their constituents. They work very hard. Staffers work long, long, long hours, much longer than most people.

WRIGHT: It seems like you have to have a lot of the answers before the questions are asked.

SMITH: Right. Well, see, when they had hearings, we wrote all the questions for the members. These members come across looking so smart. It's the staffers that provide all the questions for them and all the answers so they know.

WRIGHT: What to expect and not to expect?

SMITH: Yeah.

WRIGHT: Looking back over your career with the government, what was the greatest challenge that you had to meet and overcome in order for you to keep moving along?

SMITH: Well, I think I've already kind of gone over that, and that was sort of the reinvention of myself to convince myself. I mean, maybe reinventing myself isn't quite the thing, but to change from being just an employee and a wife and a mother—I mean, I worked there for the paycheck, and to make that transition to somebody who was looking for a career, that didn't happen to me until I was probably close to forty. I think a lot of it was the times. I was forty in—

JOHN SMITH: [19] '74.

SMITH: —in 1974. That was when things started changing. So it was a combination of my second wind, if you will, and women getting more opportunities.

WRIGHT: Did you have an opportunity in this second wind to help other women along, or were you so busy in the sense that you didn't have those types of opportunities because of the stage you were in?

SMITH: The only thing I can remember is that we had—and I don't know who set it up, but we had a meeting. It was not a meeting so much as all these women came. It was in the little auditorium at NASA, and I was one of the speakers. They had me talking about—

JOHN SMITH: It was a career thing, wasn't it?

SMITH: Yeah, it was some kind of a career. But other than that, I don't know of any—

WRIGHT: At least you've been able to watch other women move up—

SMITH: Oh, yeah.

WRIGHT: —and have opportunities to do all types of work and not just have an application reviewed and marked as a typist because they were female.

SMITH: Right.

WRIGHT: I'm glad that you've been able to watch that happen and see that work as well.

SMITH: Yeah, I don't think that would ever happen today.

WRIGHT: No, and that's the good news.

SMITH: Yeah.

WRIGHT: So the doors are open. You've done so much, even in your first wind and your second wind phase of your life, but is there something that you feel like you're the most proudest of while you worked for the government that you're so glad if nothing else you at least had that opportunity to do that project or that task?

SMITH: Well, it's kind of difficult when you're always a small piece of a bigger thing. Looking at, for example, the work with the Lifting Body, that was kind of the groundwork for the Shuttle. But yet any one person has such a small piece of it, that it's very hard to kind of toot your own horn and say, oh, you did this or you did that, because everything is a team thing. You really do work as a team.

On the F-14, we were able to modify the control system so that they wouldn't lose airplanes in spins. But again, my personal involvement was small. I mean, I was the project manager, but there were a lot of engineers that did the kind of development work on the control system.

One of the things I did when I was working for Congress that I thought was kind of interesting, but in the end it failed, as a Republican staffer, you really don't have an awful lot of clout. All you can do is kind of affect things at the margins. You work with the Democratic staff, and if they are absolutely hell-bent to get something through, I mean, there's nothing you can do about it. But you can kind of persuade them to maybe to make some changes.

But I also learned that sometimes you can kind of work behind the scenes. The Democratic staffer on this aviation subcommittee, he had a bunch of people that he selected to kind of advise him, people from industry. One of the programs that NASA Dryden wanted to work on was the oblique wing. It was an Ames development. They had had a small-scale version that they flew at Dryden, but they wanted to modify—what was the airplane they were going to modify?

JOHN SMITH: F-8.

SMITH: F-8. And flight test it. This guy, this staff director, he for some reason thought that all these people were going to give him good advice, unbiased advice but, in fact, they all had their own axes to grind because they were all from various companies and there's a limited amount of money. So there was nobody on this committee that was get going to get a nickel out of this program, so they kind of pooh-poohed it. It was going to die.

I felt that it was a good program, so I talked to John, and he talked to some of the people at NASA, and they ended up getting somebody from the Ames area to talk to

Congressman [Norman] Mineta, now our [Transportation] secretary. He was one of the Democratic members on that committee.

JOHN SMITH: He was the senior Democrat.

SMITH: Yeah. Once one of his high-level constituents talked to him, he came to the committee, and he didn't care what the staffers said. So it got put back in the budget. So the staffer, the staff director came to me and said, "Well, you got your way, but not on the merits," he said. "It just happened that this congressman wanted it for his district." I just smiled and didn't say a thing. Never let him know that I had pulled the strings to get that to happen. We did get it in the budget one more year, but eventually it got kicked out. But at least I had one a little triumph there. [Laughs]

WRIGHT: Constant process of learning.

SMITH: Right. [Laughs]

WRIGHT: As I look back through some of the notes that I made, I believe we've covered some of the things that I had talked to you about earlier, but I wanted to see if there were some other things that you would like to add, if there are some other avenues that we would like to pursue, maybe some projects that we haven't talked about.

SMITH: I can't really think of anything.

Like the cost of living, this was at Muroc. I think I told you exactly what it cost to live there, which was dirt cheap. Laundry facilities, we had our own washer and dryer there at the base. I mean, it was kind of a dormitory. It had two wings, and in each wing was a kitchen and a big bathroom. Where the two wings came together, there was like a big common living room. The bedrooms themselves were quite small.

Most of our social life really was playing bridge, watching TV, that sort of thing. We did go bowling, went to movies. There were a lot of guys there, but I don't know that we really ever dated any of them. The facilities, the two summers that I worked there, we were in like in a Quonset hut next to a hangar. It was very kind of spartan.

You talked about breaks. Break time, we didn't really have a break time. Roxanah Yancey was a real taskmaster. At that time when I first went to work there, I never drank coffee, but the only break we got was walking out to the hangar once in the morning and once in the afternoon to get a cup of coffee, because the guys in the hangar had a big urn, and they made the coffee, and they sold it for a nickel a cup.

So by drinking coffee, I was able to get a little walk, just to walk into the hangar. I usually went with one of the other women. We'd just chat and walk down there and get a cup of coffee and very slowly stroll back, and that was our break. As I said, I learned to drink coffee.

Dress code, I don't remember them ever giving us a specific dress code. We all wore dresses. It wasn't until much later that several of us decided to be very brave and we started wearing pantsuits. In fact, we had a group of us women got together and decided to do it all at once, because we knew it was going to cause a stir. [Laughs] But there was no written dress code, to my knowledge. It's just that we knew we had to wear dresses.

The hours that we worked when I was a computer there, we worked eight hours a day. My family lived in Bakersfield, and I usually got a ride. One of the guys, there was a group of guys that worked there, too. I usually rode back to Bakersfield with them on the weekends and then come back.

In fact, the earthquake was during—I don't know if you remember or if you've heard about this big earthquake in 1952?

JOHN SMITH: Tehachapi earthquake.

SMITH: The big Tehachapi earthquake. It was on a Monday morning, and I was getting dressed and packed to go back, and this guy was picking me up from McFarland [California]. When he got there, I said, "Did you feel the earthquake?" He thought I was pulling his leg. Apparently you don't feel much in a car, but he did remember seeing sparks and stuff on the telephone poles.

Well, the drive, we had to drive right through Tehachapi and Arvin, and all that area. It was one road. It was kind of around a mountain, and the outside lane had caved in, and we just drove along the inside lane. We were young, stupid. They closed the road right after that, but, see, we went through just right after it happened.

We were late getting to work that Monday morning because Tehachapi was all messed up, and we had to go take side streets around. When I got to work, immediately I apologized for being late. They all looked at me, "My God, how did you get here?" [Laughs]

WRIGHT: Got a check for dedication that day.

SMITH: [Laughs] You were asking about my first impression. Muroc at that time particularly was very desolate, but I don't remember being particularly shocked by it.

JOHN SMITH: That's because you lived and grew up in Bakersfield. It's barren anyway.

WRIGHT: It was a time to begin.

SMITH: Yeah.

WRIGHT: It was a beginning that you kept growing.

SMITH: Right. As I said, I lived in the dormitory with the other women, and I made some good friends there.

WRIGHT: Had an opportunity to go back in your other part of your career.

SMITH: I remember one other little incident. When I was working there as a computer, Roxanah, as I said, she was the head, and she lived in the dorm with me. She would ask me how I enjoyed my work, and I told her, I said, "Well, I really would like to have something a little more challenging." I said, "This is just grade-school arithmetic. I want something more challenging."

So one day she said to me, "Mr. Beeler would like to see you." De. I think we all went by first names. She said, "De would like to see you."

So I went in. Now, I was very shy. De Beeler was a very stern sort of a guy. I went in and I sat down at this table. It seemed to me, thinking back years later, that it must have been just a long table with me at one end and him sitting at his desk at the other end. He didn't say a word. I sat there thinking, "What does he want?" I thought I was going to get reprimanded or something.

Finally he looked up and he said, "What do you want?"

And I said, "Well, Roxy said you wanted to see me."

"Oh, yeah." He said, "I understand you want something more challenging to do." So he gave me this basically a calculus problem in integration. He said, "Here, do this," or something like that. He told me the guys that wanted this done. There was an office of guys, and apparently they had been reviewing a Langley paper, and they had these equations in there, and they were integral equations. They had gone through them, and they all got a different answer than what was in the report, and so they were all convinced that the report was wrong. They were on the verge of writing back to Langley saying, "You made a mistake." But they happened to mention it to De, I guess, and he thought, "Well, Harriet wants something to do. Let her check this."

Well, I did it, and I gave them the answer, and they looked at it. Then pretty soon some other guys came over. They all were leaning over the table looking at it, because I had gotten the same answer that the Langley paper had. [Laughs]

WRIGHT: You got the right answer.

SMITH: And they all said, “Well, how did you get that?” So I had to explain what I did, and they said, “Oh.” The Langley paper was correct.

So then later I found out that Roxy apparently had been asked by De, “How is the new computer working out?” or whatever, and she said, “Well, she’d like something more challenging.” So it was clear to me later that it wasn’t that they needed this done. They were convinced they had the right answer. They just gave it to me just to amuse me. [Laughs]

WRIGHT: Oops.

JOHN SMITH: Maybe to see what she’d do.

WRIGHT: And you tested well.

SMITH: Anyway, I still remember that incident. But the thing that I can remember is De Beeler just totally ignoring me in the office. I was such a scared little bunny at the time.

WRIGHT: Well, like you said, you were a woman of those times.

SMITH: Right.

WRIGHT: You got an opportunity to grow into the woman of the new times.

SMITH: Right. Right.

WRIGHT: Now you're enjoying your life in these times.

SMITH: Right. Yeah.

WRIGHT: It's a good life to look back on.

SMITH: It is. It is. I was very fortunate. I feel particularly fortunate because I never felt like I personally chose my career. As I said, I didn't know what was available, and I did get sort of pushed into something that turned out to be very fulfilling.

WRIGHT: I think that's a good place to stop.

SMITH: Okay.

WRIGHT: Thank you so much.

[End of interview]