NASA JOHNSON SPACE CENTER ORAL HISTORY PROJECT
EDITED ORAL HISTORY TRANSCRIPT

L. JOHN LAWRENCE
INTERVIEWED BY JENNIFER ROSS-NAZZAL
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This interview with John Lawrence was conducted for the JSC Oral History Project in Houston, Texas. The interviewer is Jennifer Ross-Nazzal, assisted by Rebecca Wright. They begin by talking about the astronaut corps.

ROSS-NAZZAL: I don't know if there's a code among the astronauts that they don't share a lot of information?

LAWRENCE: Absolutely, yes. You know how when you get in an airplane and the pilot comes on and they all sound like Chuck Yeager? They all have got this, "Well, shucks, folks," attitude. I think he comes from West Virginia, sort of point of view, Chuck Yeager does, and he's the icon among all pilots. They all apparently try to sound like him. I think similarly, the astronauts all take their lead from how an astronaut behaves, which is pretty much John [W.] Young.

ROSS-NAZZAL: Definitely closed-mouth, then.

LAWRENCE: Yes. It's incredibly competitive. You walk in the door, they're overachievers. It's an office full of—I don't know what it is now; at one time it was about 120—of the world's greatest overachievers, and they're all competing for the same thing. They all want the next flight assignment, and they are puckered. They are absolutely tight. I came here from the Air

Force, and I was stationed at Vandenberg [Air Force Base, California] when we were going to launch Shuttles from Vandenberg. I knew the program, and I'd interacted with NASA people. When they got ready for the first Shuttle launch, the guys here called me and invited me to come over, which of course, I leaped at it. I came here thinking I'm really going to dazzle these people with how much I know about the Shuttle program. I was so overawed and under-prepared, especially because I was assigned to the Astronaut Office. The rest of the world works at a certain level and the Astronaut Office is just so far above anything I'd ever been around, and still is. Subsequent to that, I went to Washington and worked with the White House and the Congress, and subsequent to that, I've been with business leaders in boardrooms. I still haven't seen any environment like the Astronaut Office.

I was up there one night. It was late, 6 o'clock, 7 o'clock. I don't remember what I was prowling around for—looking for somebody—I came in a room and there were about four or five guys and they had a chalkboard and there were calculations all over the board. I walked in, and they said, "What you need?" I said, "I don't want to interrupt you here; I'll just go on my way." He said, "No, no, no, we're just screwing around in here." It turns out they were calculating how much time a batter had to recognize a Nolan Ryan fastball and make the decision to swing at it and to get the bat into the hitting zone. This is their idea of, "Yes, we're just playing around," calculating a 105-mile-an-hour fastball and how long it takes to get the bat into that zone and back up from that. When do you have to make the decision to swing? It was amazing, and this is their idea of recreation.

ROSS-NAZZAL: Right, yes, their idea of fun. You came before just before STS-1?

LAWRENCE: Nineteen-eighty, yes. STS-1 kept slipping back and back, fortunately for me, because I was overmatched. They had a fire hose pointed at me because I was doing commentary from the Mission Control Center, and your public affairs commentary supplements the dialogue that you hear from air to ground and all that. The commentary people have to know the systems in total, and everybody else in Mission Control has a specific function. Clearly, we couldn't know it down to that level of granularity, but if somebody says, "There's a problem with the Multiplexer/Demultiplexer," you at least have to know where to go to find out what a Multiplexer/Demultiplexer is. You have to have a lot of broad systems knowledge to be able to drill down into specific systems when they have problems. As I say, I was nowhere in the world prepared to do any of that, and complicated by the fact that Gene [Eugene F.] Kranz is sitting next to us.

I don't know if you've had anything to do with Gene Kranz, but wow, Gene Kranz is very exacting, hardest on himself of all, but very exacting and has very high expectations from people around him. I made a tremendous error when I first got here. I was assigned to the Astronaut Office and went to the meetings with Kranz and George [W.S.] Abbey. At the meeting, Kranz made some kind of remark about a system of some kind that they were working on, and they gave it a silly name—I don't remember what the name was and I don't remember the system, either—and everybody kind of smirked at it. Kranz said, "We had to come up with a name that the wizards over at PAO [Public Affairs Office] could live with," and I was really embarrassed.

I was very embarrassed by at it and I thought, well, at the end of the day, I'll go over there and I'll straighten Kranz out. I'll tell him how much Public Affairs does for him. As I say, I was very new. At the end of the day, I went into Kranz's office and said, "I perceive you're not

enamored of the support you're getting from Public Affairs." He looked like he'd been sitting there, waiting for some dumb cluck to walk in all that time, because he just opened a vein and bled all over the place about everything Public Affairs had ever done wrong. It was a lot, and there wasn't anything you could say. He had very specific things. For example,—this was after STS-1—we had video of the Shuttle flight, and PAO was still showing artists' concepts in the visitor center. He said, "You guys haven't even got video of the real thing in the visitor center; you're still showing cartoons." Wasn't anything I could do. Just sit there and take a beating. At the end of it, he said, "I'll give you a fresh start, and I'll let you prove yourself and start off here." He gave me a stack of books I could almost not even carry, of manuals and procedures and flight plans. I'm certain I never rose to the standard he expected.

ROSS-NAZZAL: What were your responsibilities, being assigned to the Astronaut Office from Public Affairs? What did that entail besides commentary?

LAWRENCE: I was just the filter. People looked at me as the gatekeeper. Actually, I regarded myself as an enabler. The NASA charter charges NASA to promote a public awareness and interest in science and technology and aerospace. That was our job, to actively pursue that. Media who wanted to come to program and talk about Shuttle, I had the whole Shuttle program and the Astronaut Office was part of that. Media would come to me to figure out how to penetrate that system and who the right people were to talk to and to put together the stories. I thought I was unprepared—the media were just overmatched. They were not anywhere near equipped to operate at the level of understanding that they needed to be to pass on what we were doing. The science became so esoteric that they never got the big picture, and I think that's why

a lot of the interest was lost in the program. They just were not equipped to handle the science, which is, of course, difficult to convey scientific and technical information to a general public. Nevertheless, didn't see any effort to get that done, and they were just interested in the glamour aspects of it and the novelty aspects of it. When the novelty wore off, why, interest wore off.

ROSS-NAZZAL: Would you talk about the interest that they had in the women in particular?

LAWRENCE: The women came along at the perfect time. It was an absolute perfect storm. I wasn't here in '78 when they selected that class. They called themselves the Thirty-Five New Guys, TFNG. The women were part of that group. I was not here when that hit initially, but initially, there was a press conference. Later on, and I'm sure it was the case at that time, they did not allow the new astronauts to talk to the media for some period of time—six months, a year, I don't recall what it was. They just isolated them and brought them up to speed.

I got here in 1980, and of course, the feminist movement was really gathering steam at that time. Helen Reddy's "I am woman, hear me roar," had grown to be kind of the anthem of the movement. There were a lot of activists, a lot of feminist activists. Germaine Greer, Gloria Steinem, Betty Friedan, the movement had a lot of activists but there were not any iconic women like there are today. Today, there's Oprah Winfrey and Hillary Clinton and the new CEO at General Motors, Mary Barra, so there are women out there you can look to and say, "These are the kind of prosperous women that we want to hold up as examples of the objective." There weren't any in the late seventies, early eighties.

When the first women astronauts came along, they stepped into that position. They're young, they're attractive, they're intelligent, they're successful. They were exactly what the

feminist movement wanted, and the media tend to regard themselves as activists of cultural change, and they really accelerated that. They helped to make those women iconic, and I think the women—and this is just me talking; nobody ever said this—were a little skeptical and a little reticent about all the media attention. But fairly quickly, it became obvious that the media attention was very favorable. Nobody said anything negative. It was a real rush to forward the movement and to hold them up as models of the kind of things women should aspire to, as well they should have, of course.

A second part of that era was *The Right Stuff*. Tom Wolfe's book came out in the late seventies, and the movie came out in the early eighties. I wish I had a nickel for every journalist I saw come in there with *The Right Stuff* in their pocket. The very common news hook at the time was, "Do these new women astronauts have the right stuff?" That was the story they were all pursuing, and I'm sure they all independently said, "Oh, my God, I've got a great idea here." Of course, the great idea was just sweeping the country. I wish I had records of how many people had pursued that storyline. Inevitably, at the end of the story, the conclusion was, well, of course they do. I did interviews myself because, again, I feel the responsibility to be faithful to NASA's charter to inform the public.

I would make speeches and do interviews and invariably, you would get the question, "Do you think women are up to this," or, "Isn't it wonderful?" The reaction was almost demeaning because you would want to say, "Of course women are capable of doing this. Why wouldn't they be? Of course they are." The attitude was astonishment, in a lot of cases, that women would aspire to that sort of thing. Of course, now it's so common. Women engineers all over the place and women like yourself, you could find them at the time, but to find a Ph.D. woman, not as common as it is now, not at all. It was that kind of perfect storm: the feminist

movement and *The Right Stuff* came out and the first Shuttle launch. The first Shuttle launch, it was the first spaceflight since the Apollo-Soyuz Test Flight in 1975, so that built up hunger for a new space program. It all came together right about then.

ROSS-NAZZAL: The media seemed to be particularly interested, though, in sort of stereotypical topics for the women—things like relationships, their hair, their dress, things like that. How did you respond to those type of questions and how did they react to those questions?

LAWRENCE: I don't recall them ever taking those questions seriously or addressing them seriously. You may have seen Sally [K.] Ride's press conference—someone asked her if when she got frustrated, did she cry? Do you remember that?

ROSS-NAZZAL: Yes.

LAWRENCE: Of course, you just laugh that off. Defuse those sort of things very quickly. You probably saw the comment that somebody asked [Robert L.] Crippen. Let me see if I can reconstruct their question, something like, "What would you say to these good old Texas boys that ride around in pick-up trucks that ask you if women belong in space?" Do you remember that question?

ROSS-NAZZAL: No, I don't remember that one.

LAWRENCE: That question came up during the STS-7 press conference. Crippen wonderfully said, "Well, I'm a good old Texas boy. I drive around in a pick-up truck, and I don't have any problem with women in space." I don't think there ever came that sort of critical side of it at all. All the media were fairly well pumped to make them heroines.

ROSS-NAZZAL: Were there any journalists that the women particularly enjoyed working with or didn't like?

LAWRENCE: I doubt it very seriously. I'm trying to think if there were any favorites among them, but to get back to the attitude in the Astronaut Office, one of the ethos there was you just don't promote yourself. I think that goes back to the selection process. I was on the selection committee for the Astronaut Office for the 1982-1983 group. They regarded teamwork as a very high criterion in selection. There would be questions about if you were given this situation, how would you handle it. Options would be, "I'd take care of it myself; wouldn't bother anybody," and other options would be, "I would consult with my colleagues," or something. There was a very determined effort to find people who were collaborative. Cowboys were not welcome. You had to be inclined to work with people and to recognize that the group is stronger than the individual. As a result of that, I guess, the prevailing attitude in the Astronaut Office was not to stand out, not to make friends in the media, not to attract attention to yourself singly. It was all a team project. I can't recall any instance of friendships emerging, but I would be surprised if they did, just given that attitude.

ROSS-NAZZAL: There were a number of articles that came out that really featured the women prominently, like *Geo*, I think, had a very nice spread, *Saturday Evening Post*. What did management and public affairs think about that type of coverage? Was it good or beneficial for the Agency? Were they out there looking for it?

LAWRENCE: It was regarded as very favorable, and again, we operate on appropriations from the Congress, and anything that attracts favorable attention to the program and its objectives is regarded as good news. They were very much encouraged to optimize—maximize, even—the kind of exposure we got.

ROSS-NAZZAL: There's been a lot of work that's been done on the Mercury 7, how NASA really crafted their image of those boys and the family men, things like that. Was there ever an attempt, do you think, to do that with the women?

LAWRENCE: First off, I think regarding Project Mercury, the suspicion that NASA did that is a bunch of crap. I can't imagine that there was a meeting at which NASA people got together and said, "We really got to polish these boys up." I know the original astronauts got a lot of attention and a lot of celebrity, but inside the Astronaut Office, they are absolute grinders—the original seven worse than anybody. They were hard-working and the selection process would weed out anybody that had any kind of a celebrity fixation. These guys rose to the top in a fantastically competitive environment, and they were what they were. They were good, hard-working, decent men. That's what the selection process achieved. To say, at the end of that process, "Now we're

going to make them into something," no. They were already what they were. I can't imagine a meeting at which any NASA executive said, "We need to groom their image." I don't think so.

Certainly not in our case, either. There wasn't any effort to turn these people into something that they weren't. They already are perfect. They're just so amazing in so many ways and such hard workers. They're just so dedicated to it, and again, the environment is so competitive over there. All these overachievers competing for the same thing, and inevitably, they exercise the self-discipline necessary to get what they want.

ROSS-NAZZAL: There was never any discussion about women should dress a certain way or should act a certain way?

LAWRENCE: No—Lord, no. I wouldn't want to be the guy to tell them that, either. If that decision was made, I would be hard-pressed to tell any of those girls to fix their hair or anything, no. No way in the world.

ROSS-NAZZAL: Since you worked in the Astronaut Office, would you describe the six women for us? How would you characterize the six?

LAWRENCE: Again, the image that they convey is so uniform that form my point of view, I couldn't distinguish them separately except for Shannon [W.] Lucid. Shannon Lucid never appeared to be that, how do I say it, that guarded. She was more like someone you'd meet at the grocery store. She just was very authentic. I brought you a gift. Shannon Lucid, when she was on Mir, sent down an email. It is the most charming thing I've ever read by an astronaut. You

really get a sense of what it's like to be there. Even I, in talking to them and being with them, you just want to say, "What's it like? What's it like? It's got to be thrilling." You get this engineer's response. You don't get any kind of an emotional response or any reaction that's just not intellectual or scientific. It's that guarded nature of them, I think. As close as I was to them and the friendships I struck up, nobody ever broke that shield. This thing from Shannon, when you read it, you'll just find it's so charming. I haven't read it lately, but she'll say in there, like, she wears pink socks every Sunday or something.

ROSS-NAZZAL: Something about Jell-O.

LAWRENCE: Yes, one night of the week, they have Jell-O, and talks about when a supply ship arrives. It's just the most delightful little essay of what it's like to be in space. I saw that and I thought, "My God," an amazing little piece of work. I haven't talked to her about that. I hope she wouldn't mind if I give that to you, but she had fairly wide distribution of it.

ROSS-NAZZAL: I'll go on the record—she's babysat my son; she's one of my neighbors.

LAWRENCE: Has she really? Well then, you love her, too.

ROSS-NAZZAL: Yes, she's just a very kind woman.

LAWRENCE: She's just such a champ, and she'll be forthcoming in a way that the others just don't. I'll try to think of different aspects or different characteristics of them, and I'm just really

hard-pressed to do that. They're just so uniform in the way they present themselves to the outside world.

ROSS-NAZZAL: I did notice one of the press releases that you wrote was the one for Hoot [Robert L. Gibson] and [M.] Rhea Seddon, which was an interesting, one-sentence press release. It was, "Expectant astronauts." That was when Hoot and Rhea announced that they were going to be having a baby. Do you remember having that conversation with them or was that just something that Public Affairs decided we needed to alert the media. There were going to be discussions, questions.

LAWRENCE: They are public figures and an event like that certainly commands a lot of public interest, so yes, we did feel obligated to make public knowledge of it. I don't think it was anything we tried to hype in any kind of way at all. Two astronauts getting married and having a baby, I don't think it's happened before or since, to my knowledge, anyway. Bill [William F.] Fisher and Anna [L.] Fisher, I guess, although Bill wasn't an astronaut at the time, I don't think. That was kind of interesting because Anna was selected as an astronaut. Her husband competed for it and didn't get it, and then, of course, he got it the next time around. Can't remember the timing of their baby—I don't think he was an astronaut when they had the child, as I remember.

ROSS-NAZZAL: I think so, yes. I think he was selected in '80 and they had Kristin in '83.

LAWRENCE: This is a terrible story, and if you use it, I hope you won't attribute it to me, but I think it's significant in some ways. Anna had the baby about Friday and came to work Monday.

When I was talking to her, she was visibly moved because she had gotten a card from someone who had written in and said, "Congratulations on your new baby! How can you bear to leave her and go to work?" That was biting and cruel and you can tell Anna was distressed by it. That's the kind of visibility they had. An astronaut has a baby, people hear about it.

ROSS-NAZZAL: Yes, I find some of that interesting. Some of those issues that came up, there were a few marriages, Rhea Seddon and Hoot Gibson, and then Sally and Steve [Steven A. Hawley], was that ever a discussion within Public Affairs?

LAWRENCE: Nope. No, it didn't try to manipulate or control it in any way at all. Just make straightforward announcements of it and let it play out as it may. We weren't smart enough to manage the news, and in the years since I see a lot of people are not smart enough to manage the news, so we were in good company.

ROSS-NAZZAL: What was the media interest like, though, in those type of events? The marriages, the babies, from what you recall?

LAWRENCE: I ended up in the hospital over here. I was so worn out, my body just shut down. I just was absolutely exhausted. The first Shuttle launch was horribly demanding, the second Shuttle launch was just as bad, and it just kept coming in waves. I was the single point of it, and my body just shut down from exhaustion. I had an infection, I got a peritonsillar abscess, and I ended up over here across the street for about a week because I was just exhausted. I was absolutely tapped out. It was worse than anything ever before. The last flights we had were the

Apollo flights. In the intervening years, the media culture just grew and grew and grew as a result of Watergate and the Vietnam War coverage. Journalism became a really, really colossal big business, the 24-hour news cycle and all of that exploded, and it just outstripped our ability to respond to it. It was not like we were managing the news—quite the other way around. We were just hard-pressed to deal with it all. Of course, the lunar landings got a lot of attention, and I know the Public Affairs people that handled that were giants, in my estimation. They did a wonderful, wonderful job, but between then and the time we had the first Shuttle flight, the media as an industry just grew to such an extent that they overwhelmed us.

Everything we did was just reactive. We never once sat down and said, "Let's try to get them on the *Today Show*," because we never had to. The *Today Show* was calling up all the time, saying, "Hey, can we get this? Can we get that?" The Dodgers called and wanted somebody to throw out a first ball. We didn't have to sell the product. People were gobbling it up for a long time. It was interesting for sure. I came here very pleased to come here because I had always been in Public Affairs in the Air Force and I worked in the newspaper and TV stations, so I had a journalism background. I was always convinced that NASA did public affairs and media relations better than anybody. I still believe that because there's a lot of attention, a wonderful story to tell, very elegantly told, and handled with great dignity and forthrightness. I think NASA did it better than anybody. I was really proud to come here and be part of it.

It was that Greatest Generation. When I got here, all of the senior people were Apollo people and were World War II veterans, and it was that generation that taught us this is the way you act, this is the way you behave. I was really pleased to become a part of it, and I still feel that way. Probably the White House gets a lot of visibility at the same level that NASA does,

but it has a point of view, and NASA Public Affairs, the only point of view was to be forthright and forthcoming.

ROSS-NAZZAL: Were you ever consulted before they selected or named the first American woman in space? Was Public Affairs ever asked who could handle media best?

LAWRENCE: No. George Abbey would not be inclined to do that. In fact, a lot of media came and tried to penetrate the selection process: how are astronauts selected, what criteria do you use, what criterion made you select Sally Ride above the others? Whatever criteria George used, he absolutely never gave it up. Of course, he wouldn't because if the astronauts themselves knew what criteria went into selection, they would figure out a way to manipulate it. Whatever it took to get a flight assignment, they would absolutely do it. Fantastically competitive people, so George was very guarded and rightly so, of course, about the selection process.

ROSS-NAZZAL: Was there any surprise in Public Affairs that Sally had been selected over another candidate?

LAWRENCE: I can't recall it, no. A lot of curiosity—we shared the media's interest in who it was going to be and even to this day I couldn't tell you why Sally got the assignment. I have no earthly idea of why. I don't know how you would pick one of the group anyway. They were all extraordinary, all of them.

ROSS-NAZZAL: Had you had much contact with her prior to that?

LAWRENCE: Prior to, no, not distinct from the others. It was a fairly level playing field. The media don't regard them as astronauts until they've flown. The media, when they came for an interview, if you gave them an astronaut that had not flown, why, they were not happy. It had to be an astronaut with real experience of being an astronaut. We select these candidates and we call them astronauts, but they're really not, so they don't have the credibility that a flown astronaut has. From the media point of views, you can understand that. They want someone who sat in the chair. There wasn't anything to distinguish Sally from the others until the flight assignment came.

ROSS-NAZZAL: You mentioned that Public Affairs was more reactive than defensive. Was there any discussion about how Sally or the first woman selected might have to deal with all this media scrutiny and some preparations, perhaps?

LAWRENCE: Yes, that was a concern because the preparation for a spaceflight is so grueling and so exacting and so important that you don't want to interfere with that. You can't interfere with it. The preparation for flight has to take precedent over and priority over anything else. Our agreement with the astronauts, we had a media day, or was it two days? The media day began with a press conference, and then, after the press conference, we would bust the crew up and individually send them to groups of media. We'd have a group of newspaper reporters and a group of radio people and a group of broadcasters, and we would put them in little rooms like this, three or four reporters, and then we would rotate the astronauts through. Every group of reporters would get to interview one of the astronauts. Almost all of the STS-7 crew was asked,

"What do you think of Sally Ride? What's she like? Does she carry her weight?" All that sort of thing. That's the way we tried to respond to the media interest and get it out of the way, but even that wasn't adequate.

We still had a lot of requests to handle that, and quite honestly, I think that's why Crippen got that command of that mission. Crippen was, how to say it, the go-to guy in the Astronaut Office among pilots. Of course he was on the first Shuttle flight. John Young picked him, and when John Young picks you, that's a pretty good endorsement. Then, he got a flight very early, he got command of a flight. The first flight from Vandenberg Air Force Base in California, brand new launch site, a whole new process, who do you want to command that flight as a breakthrough on that location? Bob Crippen. There was a question about how frequently could you fly a commander. Flying and landing the Shuttle are pretty much the same every mission, so can you ask a commander to fly missions in quick succession? Let's try it out on Crippen. I don't remember the numbers, but if you look over the flights, Crippen had two flights in fairly rapid succession, just to see if a guy could do it. And the Sally Ride mission. We've got a woman astronaut, this mission has got to go right, there can't be anything wrong with it. If there's anything wrong with it, they're going to say, "It's probably the woman that did it," so there can't be anything wrong on this flight. This has got to be a perfect flight. Who do you get to command the perfect flight? Crippen. Crippen was the go-to guy on all high visibility, highly important and significant flights, and rightly so.

One of my favorite writers that covered the space program was Henry S. F. Cooper. A descendent of James Fennimore Cooper. Great-great grandson, I believe. He wrote for the *New Yorker*, and he wrote a book about training the astronauts. I can't remember the name of the book, but in talking to the astronaut trainers, the people that trained the astronauts, he asked

them, "If you were going to fly, who would you fly with?" Invariably, they all said Crippen. The guys that trained the astronauts said Crippen's the top guy.

I'm proud to say Crippen's a good friend of mine. I ran for Congress after I left here. I spent 10 years in Washington after the *Challenger* accident, so I was up on Capitol Hill every day and working with the White House and all that. When the *Challenger* accident occurred, we didn't have a lot of guys in Washington that had a lot of Space Shuttle program information. We started getting a lot of help from Washington. They sent a bunch of us up there from Houston that knew what a Space Shuttle was; called us the Houston Mafia up there. We were not well received. Dick [Richard H.] Truly, of course, was commanding the Navy's Space Command at the time and was appointed to take over the Return to Flight. He called me on up there to help him, with a lot of others, too, not that that was anything significant about me, but I was proud to be part of that.

I was up there for 10 years and once you get experience in Washington, you're just not good for anything else. Experience in Washington is not relatable to anything. I was burned out when I retired and went out to East Texas, where I live now. Very rural area, very quiet. If we need a loaf of bread, we got to get in the car and drive for half an hour. It's very, very rural, and I thought that's what I wanted. It was great for a little while, but I just was not ready for it. I'm still not ready for it, in fact.

I started getting involved in politics because I was so disgusted, frankly, to pick a good word, with environment in Washington. I got involved with politics and wrote some articles and gave some speeches and stuff like that, and next thing I know, I was running for Congress. It wasn't exactly what I set out to do, but I don't know why, it sounded like a good idea at the time. The incumbent congressman there was a jerk, and I guess people thought I was an even bigger

jerk because he beat me by about 3,000 votes, I think. Crippen came out and helped me. Crippen came out and campaigned with me. A couple of guys in the district had airplanes—enormous district, 19,000 square miles, big, huge district—and for a couple of days, they flew Crippen and me around and made appearances in different spots. Had a nice time with Crippen. Just a delightful guy, just the perfect human being. Just such a nice guy.

ROSS-NAZZAL: How intense do you think the scrutiny was on Sally being the first woman, from your perspective?

LAWRENCE: It was intense but not critical. In the media, everybody everywhere, I'm sure, wanted her to succeed because of the mood at the time. We really want to have some prominent, successful women out there for all the objectives that feminism espouses. The women astronauts in unison were just ideally suited for it. They were extraordinary women, absolutely extraordinary women, as all the astronauts are extraordinary people. I wouldn't say that the scrutiny was informed, if that makes any sense, in the same way that the media would not be equipped to tell you what I told you about Crippen. They were just not that informed and not that well prepared to understand the program in that kind of granularity.

I'll give you a great example: after the *Challenger* accident [STS-51L], we were inundated, of course, with very critical reporting, and invariably, frequently, the media—major newspapers, *Washington Post*—sent criminal investigators to report us. They weren't science people; they were not prepared to discuss the technical aspects of the program. They were investigative reporters, not science reporters. It's frustrating. I always use baseball as a comparison: when there's a baseball game, they send guys out to cover baseball that know the

rules of the game, but they send people to cover the Space Shuttle program that are just in no way in the world equipped to understand it or to deal with the technology of it. I think that's why a lot of the interest and a lot of the political interest in the space program has just withered away.

That's why after the first couple of Shuttle flights, interest began to wane, because media just weren't interested in the science. We got to a point where we had the first woman astronaut, we had the first black astronaut, we had the first international astronaut. Then, people started getting skeptical—wait a minute, now what's the first this time? What are you guys beating the drum about this time? It's the first mother? Come on. Judy [Judith A.] Resnik was the first Jewish astronaut, but she was not a practicing Jew, so she did not respond to interviews that had that angle. She just wouldn't respond to it. The media began to get jaded over every time we said we had a first something, whatever it was, first whatever. The media were no longer interested in the unique first aspects, and of course, that invariably kind of wears away after a while.

The real, scientific significance of the flights just escaped them. You just could not interest the media in experiments we were doing with plant lignin or with protein crystal growth or Shuttle imaging radar; any of the sophisticated, esoteric, scientific laboratory kind of work we were doing just appealed to a very, very small audience of media people and scientific people. Very small. When the *Challenger* accident came along, nobody was covering it. Wasn't on TV anywhere. I was not in Mission Control at the time—I was getting dressed to go relieve the guy, Steve [Stephen A.] Nesbitt, who was doing commentary for the launch of it, and had the radio on, and they interrupted whatever radio broadcast they were having to say there was a problem

with the flight. The flight wasn't being covered. Houston news media didn't even cover the flight. Media interest, by that time, had pretty much faded.

ROSS-NAZZAL: How well do you think Sally withstood all the scrutiny that she was under?

LAWRENCE: I couldn't have done it. I think she was very guarded at first, but when it became clear that the coverage was very favorable, she warmed to it a little bit more because there wasn't any criticism. Nobody was antagonistic. Everybody's very supportive and the adulation was very significant, and again, of course, as it well should be because she stands up to the scrutiny. She's a very capable woman.

ROSS-NAZZAL: Did you ever hear anything from management—say, John Young, George Abbey, Chris [Christopher C.] Kraft—about how she was handling the media?

LAWRENCE: No. I can't imagine they could have been anything but very well pleased. She never missed a step. I don't know how you prepare for that. My God, you can't believe it. It was just a flood of interest in her. You've seen it, I'm sure. She's on the cover of magazines and stories everywhere. For Sally's flight, we used the auditorium over there in the visitor center, and it was full.

ROSS-NAZZAL: Any discussion from management about how you, how Public Affairs should handle events for that flight?

LAWRENCE: Another good friend of mine is Alan [L.] Bean. About the same time I had the run-in with Kranz-- I felt very close to Alan Bean so I felt I could ask him this. I said, "I think Public Affairs, among the professionals in the Agency, are not really highly regarded." I think the real reason is, I have come to learn in the intervening years, is that it's just the old hard science/soft science stuff. The engineers and scientists and technical people look at the soft sciences and think it's a bunch of hogwash. I absolutely support that conclusion because a lot of the research in the soft sciences is crummy because you can't control the variables and you can't control social variables, so research in our disciplines is pretty poor. I got off the track there. I asked Alan Bean about it. I said, "Why do you think that is?" He said, "I don't feel this way, but everybody thinks they can do your job better than you do." I had someone else say to me sometime, and I think it was someone in the Shuttle program who said, "I'm not going to tell you that," whatever the question was I asked, "because if I tell you, it's going to end up in *Aviation Week*." Come on. PAO would be the last people in the world to betray something like that because you can't corrupt your own credibility that way, so with PAO, anybody is more rigorous about leaking stuff to the media. No, I don't think there was any dissatisfaction with the way the Sally Ride media stuff was handled. Again, it's not like we handled it. We just responded to it and just tried to keep up.

ROSS-NAZZAL: Lynn Sherr has an example of Sally Ride and her response to some of the media attention; she actually ended up leaving town. NASA wanted her to go on the *Bob Hope Show* and do some sort of skits.

LAWRENCE: That "NASA wanted her to," no.

ROSS-NAZZAL: No?

LAWRENCE: NASA's not that crafty. We're not that smart; we're not that stupid. PAO is in the job of advocating that. If Bob Hope came to me and said, "We'd like to have her on the show," I would say, "Of course we'll see what we can do to do that," but to push her, no. I would say, "Here's the opportunity. Are you interested? Yes? No? No? Okay, bye-bye." I find it very hard-pressed that NASA would push anybody to do anything. What for? What, do we need more publicity? No.

ROSS-NAZZAL: Any anecdotes from that mission that you recall, involving Sally, from STS-7?

LAWRENCE: No, and I think probably it's just as well. I can't tell you that. There was a horrible joke going through the Press Center at the Kennedy Space Center [Florida]. I can't think of anything distinctive about it. No, I can't. Just as well, I'm sure, because you didn't want it to be different in any way. It needed to be just as smooth as all the other flights. I'm sure it was.

ROSS-NAZZAL: Did you do any work with her, following the flight, in terms of the PR stuff? Or was that protocol?

LAWRENCE: Yes, because the interest in her continued. She forever will be the first American woman in space, so yes, there was always an interest in her interviews and follow-up stuff with her. There was always a fairly high level of interest in her, but I can't say I ever had a personal

relationship with her. It always getting her to and getting her from events. I don't think I ever sat down and had a cup of coffee with her or anything. It was always business. Again, I think I told you in the email, the astronauts tended to be guarded around me because of, "Hey, if I tell you, it'll end up in *Av Week*," so I very rarely got through that shield, except with Crip and Al Bean, a couple of others we warmed up to. I think the general view was a suspicion of PAO and not complete certainty about whose side we were on. I think they regarded us more as outsiders than insiders.

ROSS-NAZZAL: What about Judy's flight? Did you have any contact with her?

LAWRENCE: A little bit. Again, by the time Judy came around, the novelty of Shuttle flights and the novelty of women had worn down. There was again some very modest interest from the Jewish community, and she didn't respond to that, but apart from that, no. Sally may have been the CapCom [Capsule Communicator] on that flight—do you remember, was she? I'll tell you why I remember that. When I was in Mission Control, because I was doing Public Affairs commentary, Sally would talk to the guys and she'd have this very business-like voice. And then Judy—and it was Judy, so it may have been that flight—would get on the air to ground and suddenly Sally would go, "Hi, Judy." It was like girls talking to each other when she talked to Judy. Her voice changed and her attitude changed, just completely. That's really the only thing I can remember about Judy's flight, except her hair going wild. I guess static electricity built up in her hair; looked like the world's biggest afro.

ROSS-NAZZAL: The waste collection system did break down on that flight. Was there a lot of interest from the media in terms of what Judy was going to do, compared with the men?

LAWRENCE: No, no, I don't recall hearing anything about it at all. Nothing at all, no. I'm trying to think—I think it was one of the outlet tubes—ice, as I remember, gathered on one of the tubes and they used the Remote Manipulator Arm just to knock it off, as I remember, but it wasn't really a significant problem. It wasn't a problem that made everybody pull their hair out, by any means. I don't recall that it got any distinctive media interest at all.

ROSS-NAZZAL: What about Kathy's [Kathryn D. Sullivan] flight? That was another first.

LAWRENCE: There was some of that, and I think Kathy is very robust and was the logical choice for that flight because it was extremely physically demanding. Kathy's very business-like, no nonsense, doesn't put up with any frivolity. Was it the Hubble? What flight was it? Was it a satellite retrieval? I can't remember now.

ROSS-NAZZAL: She helped deploy the Hubble on her second flight.

LAWRENCE: The Hubble deployment mission, was it?

ROSS-NAZZAL: This first one was checking out hydrazine with Dave [David C.] Leestma, but her second flight was the Hubble.

LAWRENCE: Yes, because I know on the second flight, Hubble just outshone everything else. Hubble was such a magnificent machine that it took all the attention, it sucked all the oxygen out of that flight. The first flight, no, I don't recall. Again, we had the media day, as we did on the others. It didn't approach the level of interest that Sally's flight had. The Russians had had a woman do an EVA [Extravehicular Activity], so that sort of took the novelty out of it a little bit, but nothing ever achieved the level of interest that Sally's flight did.

ROSS-NAZZAL: What about Anna's flight? She was the first mother in space, there seemed to be quite a bit.

LAWRENCE: I think, again, by this time, the "first" stuff started to work against us more than it did for us. If you went around to the news media people and tried to hype the uniqueness of a flight based on some obscure little thing, nothing obscure about motherhood, but it gets into a level of absurdity before that long, that the media just say, "Who cares?" The Shuttle flights, again, you have a launch, you have a landing, and in the middle, a bunch of guys do experiments—so what? I'll be honest with you, when I first got here, I was so anxious to get in the Mission Control Center, and after first couple of years I was so anxious to get out. From my point of view, it was very repetitive, too. All you had was these Shuttle systems; you'd monitor them and hope nothing goes wrong. From the media point of view, yes, you got a launch, you got a landing, and some noise in between. Media interest in it really deteriorated and fairly quickly. Sally's flight and Guy [Guion S.] Bluford's flight were the last time we had any real tremendous media interest. Some of the international flights, we flew a Japanese astronaut, and

of course, the Japanese media were all over there. We'd get some European astronaut activity from time to time, but nothing ever approached the Guy Bluford/Sally Ride flight.

ROSS-NAZZAL: You never developed any close friendships with any of the first six? They maintained their distance?

LAWRENCE: No, they always sort of kept me at arm's length.

ROSS-NAZZAL: Do you think they performed well under the media interest?

LAWRENCE: Yes. Having run for Congress, I've learned how easy it is to say something stupid, and I'm not aware that any of them ever behaved in any way except perfection. They just really handled it so gracefully.

ROSS-NAZZAL: I'm going to ask Rebecca if she has any questions for you.

WRIGHT: I got a couple: what is your role? When you came here, you mentioned that you knew you were going to be doing commentary, and so, what training did Public Affairs provide you other than the books that Kranz gave to you?

LAWRENCE: Yes, they threw me in the pool. They just threw me in the water. A couple of the other Apollo era guys who had been experienced in the PAO commentary took me up to the console and showed me where the buttons were. You get your certain amount of research

material. You train with the flight crew, so anytime there was a simulation, you'd pack up all your stuff and run over to the Mission Control Center and go through the simulation with the crew. It was enormously valuable for me because the simulations were really grueling—nothing ever went right in simulations. You learned very quickly how to go through the material that you had and find out what system was acting up, d what the characteristics of the system were, and what it did for the ship. The simulations are probably more useful to me than anything else. They hid me, the first Shuttle flight, I had the sleep shift so there wasn't anything going on. I'd come up every hour or so and just say, "Mission elapsed time; everything's quiet."

WRIGHT: Was there somebody there evaluating what you were doing during simulations?

LAWRENCE: No.

WRIGHT: That had to be interesting. You were in the mix of it all and learning.

LAWRENCE: Very, very cruel process, in retrospect. We'd go in and sit with the Apollo guys at the console. I say the astronauts tend to be alike, and the PAO commentators tended to be alike also, from the point of view that you just had a fairly emotionless, monotone delivery of the facts without any emotion or histrionics or anything.

WRIGHT: It's not sports commentating.

LAWRENCE: No.

WRIGHT: During the missions, when you weren't on the console—when you were describing all the things that were happening--you're assigned to a crew, is that a correct statement? Like say you were assigned to STS-7, and so were you their horse handler in the sense that you brought all of the PAO requests to them and then they picked and choose?

LAWRENCE: Yes, but not only with that crew—I had every crew. I was the Shuttle and the astronaut guy in the office, so I did that for every crew. In fact, I think I was on the console in every flight also for the first however many flights up to *Challenger*. I don't think I ever missed a flight. I had every flight, and I had every crew.

WRIGHT: Kind of worked around-the-clock shifts in a sense, didn't you?

LAWRENCE: Yes, but it was great. People come to NASA because it is interesting and exciting and exhilarating and it was for me. I, as I say, couldn't imagine any place I'd rather be.

WRIGHT: Today, we communicate so much between texting and emailing and whatever-else-ing, but back then you didn't have those tools. How were you able to get all of the requests for their appearances?

LAWRENCE: Didn't have email, can you imagine that?

WRIGHT: How did you get to the information? How did they know what was going on, and how did you get the information to them to respond?

LAWRENCE: Didn't have much time. Usually, if there was an interview, I'd try to get to them ahead of time and I would try to show them material that we had that that reporter had done previously. I would often ask the reporters to show me samples of your work. Didn't always work out. We had one woman, as an example, and this regarded Sally, some woman from New York—I think it was *New York Daily News*, but I don't want to be held to that—came, interviewed Sally, went around town and went out to—there's a place out on the Bay called Mirabelle's. Is it still there?

WRIGHT: Kind of.

LAWRENCE: Somebody at Mirabelle's told this reporter that Sally came out and mud-wrestled there. She reported it as a fact. Sally did not think that was funny and the reporter was just, "I didn't do anything wrong." I told her she should at least verify it with me. I still am flabbergasted that knowing Sally, interviewing Sally, you could hear that story and even remotely imagine it was true, but there it was. There wasn't much of that. We were very guarded about who we would pass through.

Like the *National Enquirer*, I got to the point where I wouldn't talk to them anymore. The *National Enquirer* called one time, and we gave them a couple of interviews. They interviewed me one time and said, "The Russians have a way of eliminating gravity, of creating weightlessness. The Russians can create weightlessness." I said, "Laws of physics don't exactly

support that, and besides, even if you're weightless, you still have mass." I'm going into this description about mass—"even if you're weightless, when something launches, it pushes against you and your mass tends to act as weight." "What's mass?" "Mass is kind of density, like a pound of nails has greater mass than a pound of feathers." Stupidly, at some point during the interview, I must have said, "If the Russians are doing that, they're way ahead of us," or something like that, and that's all that got quoted. I spent so much time just giving these people a physics lesson, and whenever they called, I just said, "No, not going to talk to you. No, we're not going to put your request through. Just not going to do it."

We had another guy, can't remember his name now, he was claiming we never went to the Moon and sold this special on Fox. It was a special that would run on Fox, and this guy was just relentless. We would take him out and show him the Lunar Lander and show him how the Rover fit into the Lunar Lander, and this guy says, "I don't believe that." Whatever you said to him, whatever you showed him, he said, "No, I don't believe that." Finally, I got to the point where I said, "I'm not even going to waste my time with you anymore. I got people that are working here, I'm not going to take them off their jobs to talk to a moron that's got a screwball idea." He said, "I'm going to go to the president." Go to the president, do whatever you want to do. Never heard from him again, but he sold this special to one of the Fox channels. I still find it just mind-boggling, but from the point of view of Public Affairs, when a media request comes in, you're taking valuable time away from these people so you want to make sure it's productive time. You don't get some idiot like we occasionally slipped through, but we did try to screen it and did try to prepare the astronauts for who they were going to talk to, their points of view, the kind of work they've done, and that sort of thing.

WRIGHT: Right now, everything is based on metrics. Was there some type of percentage, like each flight should try to get so much percentage based of that?

LAWRENCE: No goals, no.

WRIGHT: No goals at all?

LAWRENCE: No goals, no. I'm sure there are now. I'll be there are. You're right, everything has metrics and baselines and low-hanging fruit and all that, right?

WRIGHT: At some points, it must have been extremely challenging because all of those missions started backing up and together.

LAWRENCE: Thank God we never got to the flight rate we'd advertised. When I got to Washington, the first thing I did was prepare myself for what we had told the Congress. I did the research and I found that initially, we had told the Congress that we would be able to fly the Shuttle at a cost of $10 million per flight. After the first couple of flights, we reevaluated and we said, "No, it's going to be $12 million per flight." I think when I left, the cost was something like $570 million a flight. How do you miss by that much? That's just amazing. We planned to fly an extraordinary number of flights per year.

ROSS-NAZZAL: I think it was 50-60.

LAWRENCE: Fifty to sixty flights a year. Of course, that involved Vandenberg and that involved more Orbiters than we ever got to, but thank God we never approached that level because it would have killed us. Would have killed us, I'm sure—if you'd give them more astronauts and give the program resources to support it, but they never did PAO. It sounds like sour grapes, and I've got a lot of them. One of which was that when they trained us for missions, they would ease people in to the work schedule so you could adjust your sleep schedule and your awake schedule. If you had a shift from midnight to 8:00 a.m. or one of those shifts, why, you would gradually ease into it—if you were one of the flight controllers, but not with PAO. We didn't do that. I can remember nights there. If I'd had a gun, I'd have shot myself. I was just so tired.

WRIGHT: I have to say, too, that as the missions got more ramped up, Rhea Seddon came in as a physician and they were doing more of the SPACEHABs and labs and all those deeply scientific missions, but how were you able to convey that information to the media? Did y'all have to put out more and more materials? Do you feel like they were prepared to answer any of the asking those questions?

LAWRENCE: Didn't try. We let the experts do the talking. There was a guy, I wish I remember his name. I remember his first name was Lawrence because, of course, that's my last name. He was our protein crystal growth expert, and protein crystal growth had tremendous, tremendous potential for all kinds of science and pharmaceuticals and medical remedies. It's very esoteric, very heavy into that kind of science. He flew a couple of times, so his name will be on one of the manifests. In fact, I think he was the reason they put a lock on the hatch. They put a lock on the hatch at one point because they said, "This guy, where he is exactly in time and space is not

quite as important to him as his experiments," and they said he would just be as likely to walk out the hatch as he would to go up the stairs, so they locked it. We would let the science guys do the talking and try to promote them into that. I brought this guy around Washington with me and used him to try to persuade some of the members of Congress to support our initiatives, and it just went over their heads.

This is a Congress story because I was up there for the Shuttle Return to Flight, and when the Shuttle started flying again, I thought I've done my job there. I went up to the Administrator and said, "We're back flying, Shuttle's healthy, it's probably time to send me back to Houston." They said, "We're glad you came in because the Space Station got in trouble, and we want you to take that over, too." That was the year that the Superconducting Supercollider got terminated. We always kind of looked at that as a barometer for support for the Space Station. That year, the Space Station came within one vote in the House of being terminated, so they threw the Space Station on my back. Went around Congress and tried to sell the Space Station program on the merits of science, and those guys up there just were not swallowing. They're not interested. They'd nod politely and say, "Thank you for your time."

When I was on the Space Station Redesign Team—because Space Station started growing like crazy, everybody was adding stuff on to it and expense was going up and the schedule was going back—we redesigned the Space Station and that was the time we brought Russia in as partners on the Space Station program. We went up to Capitol Hill and started selling the Space Station on the strength of Russian participation, this'll promote a market economy in Russia and help achieve democratization of Russia. The Congress just loved that and support for the Space Station, as a result of that, just accelerated. I think it took about two years, and we had gone from within one vote of losing to two-thirds of support in both the House

and Senate, just on the strength of promoting Russia as a partner. Frankly, that was bogus because we knew at the time Russia was not a credible partner, that the state of their industrial complex was abysmal, and didn't think they could keep to schedule, which, of course, they didn't do. It saved the program, saved the Station program, at least we have that.

WRIGHT: I find it interesting that you were corralling the media, then you went to corralling the Congress.

LAWRENCE: It was very similar objectives, too. It was very similar, selling science and technology to the lay audience. A lot of frustrations associated with that.

ROSS-NAZZAL: I was just trying to think of some other things: do you think that the women saw the media as valuable and an important part of the Shuttle program?

LAWRENCE: I think they warmed up to it. Media can be a meat grinder, and I'm sure there was some trepidation initially, but I think they warmed up to it because the reporting was so favorable and it was so supportive and it was so important at the time, again, for the feminist movement as well. I think all of those played into it. Maybe at a subliminal level, and I wonder if the women themselves, they must recognize their contribution to feminism. They must. I guess you would know; you've spoken to them. I wonder if they realize the iconic roles they had in that place at that time because it was, as I said, a very strong, popular movement without any real successful symbols until they came along. I can't think of anyone that compared to it in any profession. Movie stars, maybe, but that's kind of frivolous by comparison. I don't think

anyplace, anytime, there was anything that compared to the roles they served in promoting feminism and the roles of women in science and technology. A very good friend of mine is the president of the Northeast Texas college out near where I live, and he was at our house for dinner one night. We were talking about public education, saying it's just not as good as it used to be. It used to be much better.

He said, "I'll tell you why that it is—it used to be that intelligent women who wanted a career went into education, and you had the best women available as teachers, and the quality of education, as a result of that, was really good. Now, all of those intelligent women are being drawn into other fields, science, technology, medicine. Now, there are all these other fields that have opened up to them, and the quality of the educators has declined as a result." I think that's true, and he swears to it. It makes great sense to me because I think as a result of that era and as a result of those women, women are everywhere. There used to be a great story, and I still play this with my kids. There's a guy who's out playing with his son, he's out playing with his son and somehow, there's a very tragic accident and the son is very badly hurt. The guy picks up his son and brings him to the emergency room for emergency surgery, and they go into the operating room. The surgeon looks down and says, "I can't operate on that boy; he's my son." How could that be? The doctor's a woman—she's his mother. People never get that. People *never* get that, but they really never got it in 1980. I don't think that joke even existed in 1980 because it was so implausible.

ROSS-NAZZAL: Around the Center did you get a sense of what people thought about them in terms of Center employees and attitudes towards the women over the years?

LAWRENCE: We were grinding so hard. I don't think anybody—and it includes me—ever sat back for a moment and thought about what we were doing. After the successful landing of STS-1, there was a great gasp of relief. That was the first time we had ever flown an integrated system without testing it first. The Shuttle, the main engines, the solid rocket motors, the external tank had never flown in an integrated way before. We're testing this for the first time with two really nice guys on board it. When that touched down at Edwards [Air Force Base, California], right after that, there was this just euphoric flood of, "Thank you, Lord, it worked." If you look at the video of the landing there, John Young gets out of the spacecraft and walks around the Orbiter, and he's giddy. He's just animated—John Young! John Young is giddy, so you can imagine how the rest of us felt. It was extraordinary.

It was a great, great relief. "We've got this wonderful new toy and this wonderful new technology and we can do really neat things with that," but I don't think anybody sat back and thought of the scientific significance of what we could do. Even at the time, when we were preparing the Shuttle, nobody ever thought, "We'll use it to go to the Russian Space Station Mir, and we'll interact with the Russians." We'll launch Hubble Space Telescope. Nobody had thought of using the Shuttle in those ways. We had this new tool that we knew could do great things, but those great things hadn't been really defined. Space Station was a paper dream, and as far as the cultural stuff goes, nobody even for a moment thought, "This is a really great breakthrough for women, this is really a great breakthrough for black people, this is a great breakthrough for relationships with Russia or the European Space Agency." I don't think anybody thought of the cultural, social, political good things that could evolve from this. Just weren't doing that. Just trying to get through the damn day and get today's jobs out of the way, get out there tomorrow.

ROSS-NAZZAL: Were there other professional women that you recall working with at the Center? Other women besides the women astronauts, or were they sort of the token?

LAWRENCE: There was a blind woman who was, I think, some sort of a counselor. She was a pretty prominent figure there. Other women there, I can't think of any. It was quite a while before we had a woman flight director. It was quite a while before we even got that. Mission Control Center, when I was in there for all those first flights, I don't remember ever seeing another woman in there. Funny to say, but Gene Kranz's secretary, I can't remember her name, was probably the most powerful woman on the Center because Kranz trusted her implicitly and she was very able and very smart woman. If she told Kranz something, he believed it. I wish I could remember her name because she was really an extraordinary woman—but she was a secretary. A lot of times, what your job is doesn't really reflect what your worth is. There are people at lower parts of the organization that have value way beyond their merit.

There was a girl in Public Affairs, Lisa Vasquez, worked in the photo library. She was a contractor, I'm sure very low wage, and worked in the photo library. Of course, we had journalists come in, we would refer them to the photo library for research material, and they'd go in and they'd talk to Lisa for two minutes and she knew more about what they wanted than they did. If I had any kind of a job that I wanted done, I would give it to Lisa. She was really extraordinary. There were a couple of women in PAO. The editor of the newspaper, the center newspaper, the *Roundup*, was a woman. Can't remember her name. Nope, can't remember, can't recall any. Again, it was at a time when women just didn't go into science and technology.

ROSS-NAZZAL: Right, so they were pretty unusual?

LAWRENCE: Yes.

ROSS-NAZZAL: I know you came to NASA in 1980, but do you think they changed NASA culture in any way, or the Astronaut Office?

LAWRENCE: I think the other way: I think NASA culture changed them.

ROSS-NAZZAL: How so?

LAWRENCE: Changed women. I think the NASA culture is just so seductive, the business is just so damn interesting and so exciting and so challenging that it just draws people into it. I'll give you a great example, is the Teacher in Space, there, [S.] Christa McAuliffe. The original intent of the Citizen in Space program—and we were going to fly journalists and people from other professions—the real intent was to bring people from civilian life into the space program so they could return to civilian life and communicate that experience as an outsider. The program was so seductive that we brought Christa McAuliffe, perfect example, we brought her in and she became institutionalized so quickly. She became more part of the program than she was the teacher. She very quickly was not a teacher advocate to NASA, but a NASA advocate to teachers. She just got institutionalized very quickly. A lot of reporters did, too.

After the *Challenger* accident, a lot of reporters in local media, particularly, *Houston Post* and *Houston Chronicle*, several reporters lost their jobs because they were not critical and hostile

and aggressive enough in reporting because they'd become part of the good old boy network. They'd just been so seduced by the charm of the program that they became more our advocates than they were our critics or scrutinizing us. I think the program and science and technology probably in general has just reached out to the outside world and drawn people in.

I guess that's what I find very dismaying about the decline of the program, is that it used to be such a visible and significant part of our culture that attracted interest of kids and brought them into that. I don't know if they still have Spacemobiles there, but the Education Office used to have guys that would go out to schools and put on little programs. The response was also always fantastic. Whenever I went out and gave speeches, people just glad to see you, and really interested, a lot of questions, a lot of interest. I'm sure that must have withered now that there's not an American space program.

ROSS-NAZZAL: Any last minute thoughts?

LAWRENCE: No. I appreciate what you're doing, though. I told my wife, I said, "My gosh, it's kind of odd to think back that that era is now of interest to historians," but I can see that. I thought a little bit about it after getting your email, and I guess I do appreciate the role those women had in history and what they've done to our culture, what they've done for our culture.

WRIGHT: I have one quick one—did you travel when the crews went to, say, training or they went down to the Cape? Were you part of that or were you mostly housed here?

LAWRENCE: Mostly here. I traveled with the Orbiter when the Orbiter landed in California, and we would bring it back. We'd always stop somewhere. We stopped in Austin, stopped in Little Rock, we'd break the flight up into two days. We would fly the Orbiter, landed at White Sands [Space Harbor, New Mexico] one time, and when it landed at Edwards, we'd fly it from Edwards to an intermediate stop and then back to Kennedy. I would travel with it, and wherever we stopped, we would have an open house or put it on display or something. Those were great because it stopped in Little Rock, Arkansas, and of course, Little Rock, Arkansas doesn't get to see a lot of spaceships, so it was a real event there. People came out and clamored all over the place and a lot of media interest. It was great fun, traveling with the Orbiter, great fun. Those crews were terrific guys, too. Never traveled with the astronauts on training missions because, again, training was sacrosanct so we didn't do anything. Media people would always want to go, "We want to watch them train." No, not going to watch them train. Don't need those kind of distractions and wouldn't interfere or interrupt with training at all.

WRIGHT: How would you describe your role when it came to the flight crew? When you were put in that position, what did you see yourself for them?

LAWRENCE: I always wondered how they perceived my role.

WRIGHT: That was the second question.

LAWRENCE: I think they regarded me as part of the other side, and of course, the other side regarded me as a gatekeeper. It was a sort of a funny sandwich to be in because both sides of

that issue were skeptical of me. I'd go back to the NASA charter. NASA was created with partially the intents and purpose of promoting public interest and public awareness, so I tried to optimize. There's a difference between optimal and maximum. I tried to optimize that kind of exposure and that kind of coverage, and I tried to make sure that the reporters that we had were reliable, trustworthy, weren't muckrakers. I tried to serve the crew well and tried to serve NASA well in the effort to be faithful to that charter. It was not easy to break through because they are very, very guarded people. I'm sure for good reason.

WRIGHT: The judgment that you made to determine what the credibility of the journalist was, was that left entirely up to you?

LAWRENCE: Yes.

WRIGHT: You were given that authority?

LAWRENCE: Yes. I'm a journalist. My bachelor's is in journalism, and I worked in newspapers and television, so you can kind of go by your instincts. Again, everybody, by and large, wanted to tell a good story—most everybody, excluding the mud-wrestling lady, there. Most everybody was anxious to tell a good story.

ROSS-NAZZAL: I'm going to have to find that article.

WRIGHT: Did you find that more requests were coming in for most specific crews or more people, like specific people? We know that Sally had a lot of press, but did you find other people or other astronauts became now the mark of the press? They wanted to talk to this one more than that one, or did some of them just want to talk to an astronaut?

LAWRENCE: Most of them wanted an astronaut. Most of them wanted a flown astronaut, didn't care who. On a specific flight, frequently there would be hometown interest. You'd get crewmembers from certain areas that had any kind of a media presence at all, there'd be somebody from there covering them for local interest. Not too much, though, but I think because a lot of these astronauts, they grew up in one place, they were educated in another place, they worked professionally at another place, so there wasn't a lot of that local boy stuff. Occasionally, you would get some local interest, media interest, from different spots.

WRIGHT: Was there ever an opportunity where you had to step in, or a news conference, or an interview that felt that they were going beyond what they needed to be asking?

LAWRENCE: I only had to do that one time. It was a big flight, can't remember which flight it was but it was one of the flights we did in the auditorium. We had an issue with crew health and how much you can say about the crew's health when they're in orbit. Space sickness, that disorientation was kind of an issue because it affected, in some cases, people's ability to function while they were up there. The Astronaut Office, naturally, was puckered about that because if any of the astronauts tended toward that phenomenon, that might affect their selection for future flights, so they wanted to be very guarded with that information. We came up with a policy that

essentially said, we're not going to tell you anything about crew health. There was a press conference and we made the announcement about that. We sent out a release, made the announcement about that decision, and there was a public press conference at which somebody was present and it was a major medium—I think one of the network guys—had not gotten that and was trying to drill down during the press conference into crew health, one of the astronauts on a prior mission. I had to fairly aggressively cut him off and direct the microphone to somebody else. The crew thought I was a big man for that, clapped me on the back, but that's the only time I can recall.

I had to do it in Washington, sometimes, when I was talking to congressional staff. A couple of times, we'd bring people up that were working on special science or special initiatives of some kind, and talk to our committees of jurisdiction. Sometimes, the staff members on committees of jurisdiction can be stinkers. They think somebody's up there trying to sell something, and they, a couple of times, have gotten fairly aggressive with some of my scientists. I've had to step in and say, "Wait a minute, these guys are not trying to blow smoke up your skirt. We're just here to give you this information. Not trying to schmooze you or anything." The congressional staff people, they tend to be a little over-inflated with their imaginary importance. I didn't like it up there.

WRIGHT: At some point, the mission started taking animals for different experiments. Did you ever get any pushback from those groups or questions?

LAWRENCE: No, never did. Not during my stay, anyway, don't recall that there were any animal experiments that were invasive. I don't recall any of that at all.

WRIGHT: I think Rhea Seddon had those ones with the rats, didn't she?

ROSS-NAZZAL: The rats, where they were decapitated, so they were limited in what they could talk about.

LAWRENCE: That's right—what word did we use? I think we didn't say "decapitated." I think we said "were excessed" or something. We had an elegant word for that—I think it was "excessed."

WRIGHT: Did you ever get any pressure from the big network people that they were the most important?

LAWRENCE: Yes. You would set limits with them. For example, we'd give them Sally for 15 minutes, you said, "Hey, your time is up."

WRIGHT: Just one more.

LAWRENCE: Yes, the network people were absolutely the worst, just the worst. I would rather take a beating than work with those people again. They were horrible, just horrible, awful. When I say they were bad, I mean they were just terrible. You would get people like I think it was *Good Morning America*. *Good Morning America* was not part of the news division—I think it's ABC--so the news division would want a piece of the crew and then *Good Morning America*

would say, "We want it, too." I'd say, "We got it already, you got it over here," and they'd say, "No, no, no, that's the news division. We don't want that. We're in the entertainment division," or something like that. You'd wrestle with them. I was just so tapped out, I just got pissy with them and I said, "I'm just not going to do it." Then, after I hung up, I said, "*Good Morning America*, I can't do that," so I called them back, said, "All right, what do you want?"

WRIGHT: Weren't they the ones that brought Hoot and Rhea?

ROSS-NAZZAL: With the baby, yes, because there were issues with that.

WRIGHT: I guess that was family, wasn't scientific.

LAWRENCE: Yes. Somebody did that, I think, with Anna and Bill Fisher, too, caught them eating Cornflakes in the morning or something like that. I would not take that request. They'd say, "We want to go home with them." I'd say, "I'm not going to ask them that. I'm not going to ask them to do that. I'll give them to you here at work, but I'm not going to ask them to do that. If you want to ask them yourselves, you're welcome to, but I'm not going to advocate that or ask that. I didn't remember the Rhea and Hoot. I'd be very surprised because Rhea and Hoot were very private. I seem to remember Anna and Bill Fisher had somebody in their home, watching them eat breakfast or something.

WRIGHT: Were the astronauts allowed to be part of commercial ventures?

LAWRENCE: No. Couldn't endorse, couldn't do that.

WRIGHT: Did you get also offers for those? Do people come through and ask you to?

LAWRENCE: Yes. Just reject them out of hand.

WRIGHT: That was like a whirlwind all the time, wasn't it? Just something coming at you.

LAWRENCE: It was, yes. It was a grind, absolutely was. I look back on it in mixed ways. It was exciting and exhilarating and boy, it was just so hard, though, just so hard. I had a young family, had kids in school, and I'm working crappy hours. You're not making much money.

WRIGHT: Continual hours, too, wasn't it?

LAWRENCE: Yes.

WRIGHT: Who was in charge of PAO at the time?

LAWRENCE: John [E.] McLeaish. I came to admire him more later in life than I did at the time. Between us, I thought he was kind of a buffoon at the time, but looking back at what he did and what those guys did, Terry White and McLeaish , that era of guys, what they did at Apollo. I absolutely respect the accomplishments they did, and when McLeaish died, I didn't know he died. I heard about it afterwards. I would have gone to the funeral but I didn't know about it at

the time. When I found out, the funeral home website had a page for him and people could sign on and make little comments about him. I saw Neil [A.] Armstrong had done that. That's pretty good, Neil Armstrong said, "Sorry to see you go." That's all right.

WRIGHT: This is the last one: if you had to write a job description today to explain what you did during those first years—

LAWRENCE: I would go back to that charter: this is what you're paid to do here, that you're paid to be loyal to the initial charter of NASA. In fact, I always thought about, when I ran that office for a while after I came back from Washington, I wasn't there long enough but I'd always intended to have that phrase from the charter put on a placard and put up there, that that's what we're here for, to promote public awareness. I think NASA does a wonderful job, or had done a wonderful job of that, that science and technology in this country, best anywhere, really. I guess a lot of it goes into frivolous stuff—apps on cell phones and video games and that sort of stuff—but I think all of that has its origin in the original seven astronauts, probably.

WRIGHT: And all those who followed.

LAWRENCE: Yes.

ROSS-NAZZAL: I had one other question: you mentioned that the media had always wanted to watch crews train but they were prohibited from doing so. How was Henry S. F. Cooper able to do that when he wrote the book on [STS]-41G?

LAWRENCE: He didn't watch any training. He would talk to the trainers and ask them about the experience and the requirements. A lot of those trainers will argue that training, that simulating spaceflight is harder than spaceflight because you've got all these machines and they're supposed to imagine they're in zero gravity. Those simulator guys very convincingly argue that simulation is harder than spaceflight. It's easy to build a rocket and send it up there, but to make a rocket and pretend it's up there and go through all those things, and then have all these faults, it is very sophisticated. Like a big, elaborate video game where the guys are in the Shuttle Mission Simulator and then there's this whole team of back rooms and everybody in another building and you're all playing this game together. It really was great fun. Simulations were a lot of fun. Something would go wrong and they'd tell that crew that you had a failure in your RCS [Reaction Control System] jets, and they'd go, "Really? What a surprise that is. Knock me over with a feather."

ROSS-NAZZAL: I think we have exhausted our questions.

LAWRENCE: Please feel free to call me at any time if anything else occurs to you.

ROSS-NAZZAL: Absolutely. Thank you so much for taking time today. I appreciate it.

LAWRENCE: I've enjoyed it. It's been fun for me.

[End of interview]