

**NASA JOHNSON SPACE CENTER ORAL HISTORY PROJECT  
ORAL HISTORY TRANSCRIPT**

BREWSTER H. SHAW  
INTERVIEWED BY JENNIFER ROSS-NAZZAL  
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ROSS-NAZZAL: Today is August 15, 2014, this interview with Brewster Shaw is being conducted for the JSC Oral History Project in Houston, Texas. The interviewer is Jennifer Ross-Nazzal, assisted by Rebecca Wright.

SHAW: I've been thinking about this a little bit, and how can I possibly help you when I can't remember anything? I thought we would just start out talking about setting the stage. If you asked me these questions in 1978 or whatever, and then asked me those questions today, you'd get totally different answers for obvious reasons. I don't propose to speak for anybody else, but I don't think I'm unique or unusual relative to the military pilots. We had—and I'll use this in a generic sense—all survived tours in Southeast Asia. We had all gone through test pilot school. We were all flying test business. We were at the top of our flying game when we got selected to come here. We were pretty cocky, we were pretty macho, we had pretty big egos. When we met some of the people during the interviews, when [we] came down here for interviews, it was very interesting to meet these other types of people.

The only female, other than secretaries and that sort of thing that I worked with that whole time, was an intelligence officer at Ubon [Royal Thai Air Force Base] when we were doing the linebacker series of strikes on Hanoi [Vietnam], trying to get the Paris Peace Talks to go to fruition. This woman would brief us at oh-dark-thirty, before we'd head up to Hanoi, on

intelligence, what they had. Mostly that meant defense, what the defenses we were going to run into. [Other than that I had] no [direct] experience working with [professional] women.

When we all show up here as the TFNGs [Thirty-Five New Guys], “Okay, now I remember this person from interviewing, but I haven’t met any of these others.” There are these six women, and there are a whole bunch of non-military-pilot-types, so they’re all strange animals. They all have incredible résumés. They’re all very smart people. So they get credit for that, and that’s all. The rest of it, we’ll have to see. That was kind of the perspective, I think, for most of us military pilot guys. It didn’t take very long being around these people and interfacing with them to discover that they had a lot to offer and that the way that the mission was defined for the Space Shuttle program, they were going to be key contributors to it.

One time I remember in particular. We were doing an interview, and there were three or four of us in the room with the interviewer. I don’t remember exactly what we were talking about. Kathy [Kathryn D.] Sullivan was the female in the room, and Kathy made a comment to the interviewer about us, the guys. “They’re just the taxi drivers. They’re just the taxi drivers. We, the mission specialists, we’re going to do all the work on the Space Shuttle program. These are just the taxi drivers.” What? Little bit offended. A few years later, I decided Kathy was right. We were the guys that got them there. Some of us flew as mission specialists and did real work, but the rest of us, we got them up and got them down. After I had commanded missions, I decided Kathy was wrong.

ROSS-NAZZAL: You flip-flopped back and forth?

SHAW: [In the Shuttle program, the Shuttle commander is the mission commander and as such is responsible for the entire conduct of the mission. He or she assigns task responsibilities to the rest of the crew and ensures that they are properly conducted. The Shuttle commander is always a pilot.] ...

I remember meeting Judy [Judith A.] Resnik, one of the early, early times we were here. Judy was this incredibly outgoing, vivacious, friendly person, so it was easy to get to know her to the degree that she would allow you to know her. The other girls were, in their own way, more reserved. To me, Shannon [W.] Lucid is the salt of the earth. She's the Mother Teresa of the Astronaut Corps. I always had a great deal of respect for her. Sally [K. Ride] was very quiet, as I'm sure Lynn Sherr says. She was a very personal person. She liked to have her privacy, and so she was very quiet, but incredibly smart and obviously very competent and accomplished. [M.] Rhea [Seddon] was a doctor, and she was focused on doing her job and doing it well and whatever assignment you gave her, that's okay. She would just knuckle down and do it. Anna [L. Fisher], it took a little longer to get to know Anna, I think, but I liked all six of the women. To me, Anna has a softer persona than the others, except for Shannon Lucid; you just can't find anything to complain about with Shannon. Kathy Sullivan, Kathy [had a persona] as big as any of the test pilots or the pilots. Her personality's very strong and aggressive. Obviously, she did good work because that's the kind of person she was.

We've gone around a little bit. I can't remember any particular flights, T-38 flights. I'm pretty sure I flew with all of the women. It didn't take very long with one of them in the backseat to figure out that this person wants to do this job well and they're very competent and capable. You just give them their rein. They'll take on the responsibility, and they'll handle it. That was nice, but I didn't really work with any of them in any significant way. We started out

on the support crew for the Skylab re-boost mission, which of course we never got done because it [re-entered] before we started flying Shuttles. Then the next significant job that I personally had was in SAIL, Shuttle Avionics Integration Laboratory, and J.O. [John O.] Creighton and I were sent over there as the first two from the office to go work there. A lot of people over the years cycled through there, some of them these women, some of these women. I'm running out of things to tell you.

ROSS-NAZZAL: Did you work at all with Shannon in SAIL? She worked SAIL prox-ops [proximity operations]. Did you work at all with her?

SHAW: [I don't think so]. She was there later, after I had gone on to do other things [as I recall].

ROSS-NAZZAL: You mentioned that you were willing to give the women a fair shot because their résumés looked pretty good, but that you guys came in, you were pretty cocky. Did you think that being an astronaut was a man's job and that women couldn't do it? What was your initial thought when you found out there were women?

SHAW: No, not that women couldn't do it. Certainly at that time, there were no women test pilots who were going to get hired as pilots. They were all hired as mission specialists: doctors and geologists and chemists, really good people.

I was in college when I decided I wanted to be in the space program. I grew up on a little family farm in Michigan, didn't know anything about flying or anything like that. When I was in college, I paid for my college education by playing rock and roll music in a band. One of the

drummers that we had in the band over the years was a private pilot, and he took me flying one day, and I haven't stopped. I loved it. About the same time, I took a celestial mechanics course in my engineering curriculum, and it had a great professor, professor Bud [Alois J.] Schlack, I'll never forget him. He just made it so interesting and so much fun and I loved the course.

Of course, this was the mid-sixties, and you're watching these guys get ready to go to the Moon, right? This idea kind of grew in me, "I'd like to do what those guys are doing." All of those guys were military test pilots, at that time—all of them. They're only guys, and they were all military test pilots, so it seemed apparent the road to NASA and to spaceflight was as a military test pilot. So off to Vietnam you go because that's the only way you're going to get there. No matter what you thought of the Vietnam War, if you wanted to be an astronaut, that was the path. So off to Vietnam we all went.

There was no concept, at that time, about women, because there were no women. I didn't think about it. When the Shuttle comes along, that's a different animal. It's a truck—it's going to haul stuff up and haul stuff down, and the stuff that you haul is the important stuff. This is a delivery system, a transportation system, STS (Space Transportation System). Now, it changes the whole flavor, and so I didn't find it surprising that there was a broad spectrum of people being selected for the program; for all of the reasons that we all know about, it's good to have a broad spectrum of people. The fact that women were going to be involved didn't seem odd. Didn't know how it was going to work out, but it didn't seem odd. Pretty soon, it became evident it was going to work out just fine. I don't know if I answered your question or not.

ROSS-NAZZAL: You did. There were so many movements happening in the sixties and seventies, there was the civil rights movement and the women's rights movement. Did any of

those have an impact on your family or life, your perspective on things? Or were you separated from those events, do you think?

SHAW: Kathy and I were married in 1969, and we spent our honeymoon driving to Selma, Alabama, from Madison, Wisconsin, to go to pilot training at Craig Air Force Base in Selma, Alabama.

ROSS-NAZZAL: Interesting place to be.

SHAW: We lived in Selma. Kathy, who had her bachelor's of arts degree in English taught at an all-black country school, 15 miles outside Selma, and got her eyes opened for her in the year that we were there. She had this experience working in this culture, teaching these kids, understanding how people thought that if they didn't vote for George [C.] Wallace, they were all going to lose their jobs, etc., etc. From a civil rights movement standpoint, the march through Selma had been a couple of years ahead of that, so it was still the Old South to a large degree. That was a real eye-opener for us two kids from the Midwest, Michigan and Wisconsin. Other than that experience, no, they didn't impact.

Kathy and I were both students at Wisconsin when the anti-war protests were conducted. In fact, there's a book written by David Maraniss about that event. It's called *They Marched Into Sunlight: [War and Peace, Vietnam and America, October 1967]*, and it talks about the 17<sup>th</sup> and 18<sup>th</sup> of October, 1967, from two perspectives. One perspective was from the University of Wisconsin, Madison campus, where the commerce building was occupied by students, organized by anti-protest demonstrators. A lot of students had no idea why they were there, they were just

there, as you can imagine. Then [the university] called in the Madison police, and for the first time on the evening national news, you saw college kids with blood running down their faces after they'd gotten whacked in the head with nightsticks, as they threw these kids out of the commerce building. That event lasted those two days, 17 and 18 October.

In Vietnam, on 17 and 18 October, an Army unit called the Black Lions was ambushed by the VC [Viet Cong] and almost annihilated as a military fighting unit. The book goes through the history of these two events that occurred on the same two days halfway around the world apart in a very interesting way, especially when you had been there on the campus when that had happened and then ended up, albeit not carrying a rifle in a rice paddy, but you ended up in Vietnam, fighting in that war. For me, it was an incredibly interesting story. He also wrote the book about Vince Lombardi [*When Pride Still Mattered: A Life of Vince Lombardi*]. He's written lots of books, including one about Barack Obama [*Barack Obama: The Story*], where you get to chapter seven before Barack Obama's even born. It's all of the laying the history of what makes this person the person they are. He's a good writer.

All of that occurred in the mid-sixties, and so, when I went to Phan Rang [Air Base], Vietnam flying F-100s and then to Ubon, Thailand flying F-4s, my wife, Kathy, went back to Madison, her hometown, and stayed and worked there while I was gone, and was treated very poorly by [some] people when they found out that her husband was fighting in Vietnam. That's the impact to us from those things that you mentioned, and it had nothing to do with spaceflight or the six women. It was just the times. That's part of the stage that we were all acting on at that time.

ROSS-NAZZAL: You have a daughter. Did having a daughter influence in any way your attitude toward the women, do you think?

SHAW: Yes. Having a wife influenced my attitude about women, too, because they're both incredibly capable, tough—tough—people. Both of them are tough, yes, so of course it did. I would let my daughter do anything that she wanted to do. I would have full confidence that she would be okay, and she'd make the right choices and keep herself safe. That was the way I was raised. I was raised on a farm [and had three older sisters], and we were just expected to do everything, with machinery, with animals, with all kinds of things that would be considered by a lot of people to be hazardous. That was just the way you grew up, and the way you lived. That's the way I treated my kids, too, and I try to treat my grandchildren that way. I think it's a healthy way to have a good self-image, still.

ROSS-NAZZAL: What did your wife think about you flying with women? What were her thoughts?

SHAW: None [that I know of]. I flew with Mary [L.] Cleave. I think what Kathy would hope would be that I wasn't too protective of her, that's what Kathy would hope, I think. Flying and training with Mary Cleave was very interesting and very fun. I really enjoyed it. I will say that I was [a little] protective of Mary. I would go over to Building 9—she was training to operate the RMS [Remote Manipulator System]. One of the things that she was going to do was have Jerry [L. Ross] and separately Woody [Sherwood C. Spring] on the end of the RMS and move them around doing the two experiments that we were going to do, called EASE [Experimental

Assembly of Structures in Extravehicular Activity] and ACCESS [Assembly Concept for Construction of Erectable Space Structure]. I would go over with her and help her with her training and observe her and build my confidence in her ability to do the job right. I'd get a stool for her to stand on so she could look out the back window because she's about your size. I had a great time; I really enjoyed flying with Mary. It was a lot of fun. Pretty soon, she was just one of the guys, except she was a girl.

ROSS-NAZZAL: Why, initially, were you more protective of her than the guys, and in what way? Can you explain that?

SHAW: I'm sure that I learned that from my father, who was a chauvinist, and one of the responsibilities of the male is to take care of the womenfolk.

ROSS-NAZZAL: Did she get any extra ribbing from the crew, being the only woman on the crew?

SHAW: No, I don't think so. I don't think so.

ROSS-NAZZAL: Wasn't she the sanitary engineer on that flight? Did you have a problem with the toilet, or am I thinking of another mission?

SHAW: She, Mary, has a Ph.D. in civil engineering and specialized in [environmental engineering].

ROSS-NAZZAL: That's why I was thinking she was a sanitary engineer, but it's been a while.

SHAW: Sanitary engineer was a joke. Not that she had to do it. She didn't have to make the coffee and get all the donuts or clean the toilet. That was just a joke.

ROSS-NAZZAL: Would you talk about the training that your class participated in? Did you travel with the women? Did you go to Homestead Air Force Base [Florida], for instance? Was that a requirement for you?

SHAW: Yes, we did all of that. We went to Homestead. We went to a lot of places, and we listened to a lot of Center Directors talk and that was interesting. Some of them didn't want us around. As a matter of fact, some of them didn't want the Shuttle around. We traveled with [the women] a lot, yes.

You had another question about did we gather? Yes, we had Friday nights. There are the two towers down there by the creek or the river, on the left-hand side. I don't remember what they're called, but in the bottom of one of those, there was a bar/restaurant, and we used to go there on Friday nights. Actually, we would go wherever George [W.S. Abbey] suggested to somebody that it would be good to show up. "You guys ought to go to," or, "These places got good beer," or something like that. We did all that. To us military guys, that was just going to the O [Officer's]-Club on Friday night with the squadron or the wing. You're used to those kind of relationships with guys, and now you just included these girls. It was just natural. It was fun. We all seemed to have a good time. Not everybody did it to the same level of enthusiasm. Like Shannon wasn't a big partier like that, but Judy was. The other gals were kind of in-between.

Nothing seemed unusual there, especially as we got to know each other better and better, then the group coalesces better into a family sort of relationship. With that ever-present edge of, “Hmm, yes, but we’re competing for flight slots,” which is not talked about but was always there. One of the things that surprised me—and this has got nothing to do with the girls, again—was the Navy/Air Force competition that I didn’t know existed until I met Hoot [Robert L.] Gibson, who I consider to be a very, very good friend. Hoot was always ribbing us about Navy being better than Air Force and all this kind of stuff. We’re all Americans, that’s what I thought, so I didn’t care about that stuff. It was fun to watch that sort of thing, but we didn’t have anything like that between men and women, as far as I could tell.

ROSS-NAZZAL: Did you play on the softball team, Mr. Abbey’s softball team?

SHAW: I’m not very good. Yes, I played in a softball game or two, but I wasn’t really on the team. When you’ve got guys like Pinky [George D. Nelson] and that caliber, not me. I don’t make that cut.

ROSS-NAZZAL: I understand there were so many of you in that class; there was a red team and a blue team. Which team were you on?

SHAW: I was on the red team.

ROSS-NAZZAL: That was Rick [Frederick H.] Hauck’s?

SHAW: I don't remember, honestly.

ROSS-NAZZAL: Different people have told me—there have been different heads. Some people say John [M.] Fabian was one of the guys, some people say it was Dick [Francis R.] Scobee.

SHAW: John Fabian was kind of a natural leader. He was older, more mature, and *not* a fighter pilot, so he didn't have that anchor to haul around. He was a natural leader. Scobee was another guy who was more mature, was a natural leader. Rick Hauck was a natural class leader. We had several guys that were looked upon—like if you had a question, you'd go ask them for advice or something.

ROSS-NAZZAL: Do you think things operated similarly to what you had experienced in the Air Force or military? Were some of the mission specialists kind of surprised by how things worked or had difficulty handling the hierarchy?

SHAW: Yes, I think it took them a while to figure out how we were going to behave—"we," the military people. We're going to behave ourselves. We were very chain-of-command-oriented. In this group, there was no chain of command, really, other than the natural leaders, but there really wasn't a chain of command until you got to Al [Alan L.] Bean, and of course, John [W. Young], so on and so forth, all the older guys were kind of above us. We were whale shit.

ROSS-NAZZAL: What did they think of you guys when you first came in?

SHAW: I don't know what they thought of us. I'm sure they thought of us as interlopers. I don't know that, but it wouldn't surprise me because many of them had been here a long time and were waiting to get to fly. Here's all these new kids that just think they're here to do nothing but fly, and, "well, wait a minute," but I don't know that for a fact. Nobody ever treated me, personally, and I never saw anybody treat anyone else, like that.

ROSS-NAZZAL: I understand when Joe [Joseph P.] Allen came back from [Washington] DC, he was sort of considered an honorary TFNG, or your thirty-sixth member?

SHAW: Joe looked younger than all of us, and he's a very fun-loving and gregarious guy, and so he fit right in well, yes.

ROSS-NAZZAL: The women, to me, seemed to blend in really well. They tried to do it without making waves, and they wanted to be one of the guys. How do you think that they were so successful in doing that?

SHAW: I think that we all had a common goal, that we were all pulling for and working our fannies off for, and that was a successful Space Shuttle program. When you have a goal like that, it's kind of like, "Take that hill." When you've got that kind of goal, everybody works together to make it happen. You appreciate the contribution that each other make.

ROSS-NAZZAL: Did you read Mike [Richard M.] Mullane's book [*Riding Rockets: The Outrageous Tales of a Space Shuttle Astronaut*]?

SHAW: Yes, I did.

ROSS-NAZZAL: I have to ask—what do you think of his perception of how things were when you came in and what he thought of the women?

SHAW: I forgot what he said.

ROSS-NAZZAL: I think he talked about planet arrested development, you know, what are these women doing here, that they had to deal with a lot of immature attitudes from some of the guys?

SHAW: Yes, that's true. I've told you that, what our attitude was, and some people were more immature than others in expressing that or demonstrating that attitude. You've got to understand Mike Mullane, too, when you digest that book and try to evaluate what is said in there. Mullane's a different cat, and he was always one quick with a joke, and all the better if it was a sexually-oriented joke.

ROSS-NAZZAL: What did you think of his portrayal of George Abbey and John Young? Fair, biased, embellished?

SHAW: Everybody had a different opinion of George Abbey and John Young, their own opinion. I don't think that there's one common opinion of them. I love George Abbey. He hired me. I love John Young. He let me fly with him. Not to mention the fact that they're both incredible

men. They're both unique individuals. They have their own operating modes, and, sometimes, you didn't like those much, but that's what came with those men.

ROSS-NAZZAL: Do you agree with Mullane's assessment that Abbey played favorites, in terms of the Navy versus Air Force?

SHAW: I think that's wasted brainpower effort, thinking about that, really. In the end, it all washes out. There are a lot more important things to consider and to think about or worry about than whether George or anybody else played favorites.

ROSS-NAZZAL: We've interviewed a number of the women, and they told us they didn't really encounter any issues. That's one of the big questions I'm asking myself, why was NASA so successful at integrating women compared to the military? You still hear stories about problems at the Air Force Academy [Colorado Springs, Colorado] or at West Point [United States Military Academy, New York]. There's a lot of issues that you might hear about in terms of women in Iraq or Afghanistan, but within NASA, it seems like it was so seamless, so easy.

SHAW: Consider the population you're dealing with. Compare the population in the military with the population that got selected to come to Houston, Texas, to fly on the Space Shuttle. It's pretty different spectrum of people. It doesn't surprise me a bit. Professional and very different professions, but professional people dedicated to their profession, and their profession now is going to become making the Space Shuttle program successful. They've gone through a huge, multi-layered screening process to get there, so you have really narrowed down the spectrum of

humanity compared to the broad spectrum in the military services. I think that is the difference more than anything that NASA did overtly to try to make this work.

ROSS-NAZZAL: Did George Abbey or John Young really encourage the guys to, I don't know, give the women a fair shake?

SHAW: No. I never had anybody tell me that. It was just expected. The women, they could take care of themselves. When somebody said something that was out of line or inappropriate, either one of the women or one of the other guys would let them know.

ROSS-NAZZAL: Can you give us an example or two?

SHAW: No, I cannot.

ROSS-NAZZAL: Do you remember any sort of awkward moments during your time in the office, that you were surprised by that women may have encountered?

SHAW: In general, I would say that once in a while I was surprised at the coarseness of the conversation or comments that would be made, that I felt were using poor judgment. Those things always seem to blow over. In the end, everybody appreciated the importance of the mission that we all had. These other little things are just humanness. When you're in a squadron, you're always joking around, you're always poking fun at each other, you're always doing that kind of stuff, especially when you're getting ready to lay your life on the line, because

that's just part of the mechanism for coping. This was much less that, but still, it was a unique and unusual circumstance and situation for a lot of the people. I think maybe the mechanism was similar. One thing that I often wondered and never asked anybody, because I thought it was inappropriate, was how well the mission specialists that had not had military or significant commercial or private flying experience, especially in high-risk situations, was how well they appreciated the risk involved in flying the Space Shuttle. I never got a good answer. I never felt like I really had a good sense for that.

ROSS-NAZZAL: I've had several mission specialists tell me that sometimes they felt like they were second-class citizens in the office, that it was—especially when they came in, in '78, that it was very much a test pilots' office. What was your sense?

SHAW: It was. The office we walked into was, except for the Apollo guys like Harrison [H.] Schmitt and [scientist-astronaut] guys that got hired, but all those guys got sent to pilot training, so they were all flyers. Now, we've got this mission specialists that fly in the backseat. That would give you a second-class citizen feeling, so that was, I think, not surprising. I'm sure many of them or some of them felt that way. By the time you got assigned to a mission and trained and flew, then that all just evaporated because now, you're all one team and you've got a job to do. Each person has their assignments, and each person's going to do their assignment to the best of their ability, and it turns out that their ability is pretty darn good. Stuff went well. I don't know but I would guess that mission specialists, after having flown, didn't feel that way anymore.

ROSS-NAZZAL: All flights are good flights, I think someone has told us.

SHAW: Every time you get to fly in space, it's a good flight, no matter what your mission is.

ROSS-NAZZAL: Did you have any contact with Carolyn [L.] Huntoon at all? She was sort of the mother hen of the six.

SHAW: Sure, yes.

ROSS-NAZZAL: What impact do you think she had on their standing in the office?

SHAW: She was a strong advocate. She was an overseer. I think Carolyn kept her eye out for some of the kind of concerns that you've asked about, whether they were being treated properly and fairly and with respect and all of that. I think Carolyn kept her eyes open pretty well and looked out for them. I never had any personal issue with anything Carolyn did relative to the women. I just thought she was doing her job.

ROSS-NAZZAL: When I was thinking about the women, some of the women seemed to be very athletic, like Sally and Kathy. Do you think that had an impact on their ability to merge into the class pretty easily?

SHAW: No. No, I don't, really. It would give them an avenue for making or building a relationship with somebody, if you got to the tennis courts together and play tennis together, that sort of thing, but other than that, no, I don't think so.

ROSS-NAZZAL: The media made such a big deal after Sally was selected about, “Are you going to be chivalrous in space?” Obviously you couldn’t open doors for her in space, but did you guys ever talk about things like that, should you carry their flight bags out to the T-38s or open doors?

SHAW: No, everybody carried their own weight. The only thing we ever did was we put a bungee cord between two switch guards so that we could hold Mary up in the window so she could look out. That’s all.

WRIGHT: That was kind of you.

ROSS-NAZZAL: There were some relationships that blossomed and turned into marriages from your class, especially, Rhea and Hoot and Steve [Steven A. Hawley] and Sally. Was that a big deal or it was just kind of, well, that happens?

SHAW: Yes. Those weren’t the first relationships for all four of those people, so no. That’s personal stuff; doesn’t have anything to do with spaceflight or doing their job.

ROSS-NAZZAL: Talk about that meeting where George announced that you and Sally would be flying, [Daniel C.] Brandenstein, Guy [Guion S.] Bluford, STS-7, 8, and 9. What are your memories of that day and the emotion of what was going on?

SHAW: As I recall, I already knew what my assignment was going to be before it was said so publicly. I didn't know the other assignments, but I knew what mine was going to be. It was nice that our class had started getting flight assignments. I felt bad about some of the people that didn't get flight assignments, but that's just the nature of the beast. Everybody got them eventually. I was delighted that I had gotten one. Didn't surprise me that Sally had gotten assigned to a flight. I don't know that I have a particular reaction to that meeting. You look around the room, and you can see the disappointment on a lot of people's faces. You can see the pleasure or happiness on others, but that's always the way it is in a competitive environment. The way I looked at it was, great, we're getting started. The TFNGs are getting started, let's go. The program was starting to pick up a little steam. When we got here, we were going to be flying in a year, right? We didn't.

ROSS-NAZZAL: You were going to be flying constantly.

SHAW: Yes, a lot more than we did.

ROSS-NAZZAL: Mike Mullane described Sally as a pretty hard-nosed feminist in his book. Did you see that side of her?

SHAW: More so than the other five, I think, but it never bothered me personally. I was okay with that.

ROSS-NAZZAL: Do you have any examples of her being a feminist? No anecdotes?

SHAW: No.

ROSS-NAZZAL: None you want to share on tape? Anna Fisher was CapCom [Capsule Communicator] for your first flight. Do you have any memories of working with her on that mission or communicating with her on the ground?

SHAW: Nothing that I consider to be unusual or extraordinary. The mission, once we got the fool hatch open to let us in the Spacelab, once we got past that, which was a big hiccup early on, then everything else went pretty smoothly until the very end, when it was time to come home. [The only] particular exchange that sticks in my mind [was when Anna told us we were go to extend the flight to a full ten days].

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

WRIGHT: Just two because you just mentioned them. One was when Jennifer asked you about any remembrances of that meeting, you said you weren't surprised that Sally had gotten the assignment. Why weren't you surprised?

SHAW: [I wasn't surprised that one of the women received a flight assignment in the first round. The fact that it was Sally seemed reasonable to me.]

WRIGHT: I'm not asking you to name a name, but were you surprised by anybody who got an assignment, or did you figure, all right, if you were picking people, you would have picked that person?

SHAW: Picking wasn't my job.

WRIGHT: The other, you were just talking about Anna being your CapCom. Being a military person, I have to assume that you never really had a female voice in your ear when you were transmitting any type of correspondence back and forth on a mission. Is that safe assumption?

SHAW: Yes.

WRIGHT: This was something new for you, to get that?

SHAW: Except for T-38s. When they flew in T-38s, they did the talking, so we all got used to hearing them talk. That was probably a good thing to have them do. Whoever thought that up, I'm sure somebody sat around and, "What are we going to have them do in the backseat so they're not just bored to death? Give them a job to do," just like they were going to do on-orbit. Get them started. I thought that was a good call, the navigation, handling all the radios and the nav stuff and everything, then we truly became just the taxi drivers. Didn't even have to talk.

WRIGHT: Nice to live up to that reputation. This one doesn't have anything to do with the women. You were talking about George Abbey and John Young, because they were such strong

leaders in their fields here. You went on to a very strong leadership position in the rest of your career. Did you feel like you learned some management lessons from them, or some tools that you took to your leadership position that you might have used? Or maybe you didn't use, either way, because you learned how not to do things.

SHAW: Some of each.

WRIGHT: Any that you'd like to share that you felt that really worked well for you?

SHAW: The thing with both of those guys that really endeared them, I think, to most of us, was how strongly they both believed in what we were doing. You got to have that at the top. You got to have somebody who really believes in what the organization is doing, is trying to accomplish. If you don't have that, you're not going to be successful. You really do, you have to have that person pulling you along, out there in front, dragging you along and not letting you lose sight of what the goal is.

In Boeing, our division spent some time once trying to figure out what the future should look like for us. We defined what we called our North Star, and it was how we were to navigate. Our North Star was a concept of what the future could look like and what our role should be in that future. Every decision, every business decision that we made after that, we tried to beat it against that. Does that support where we're going or not? And use that as a strong decision-making mechanism for, "Is the answer to this decision yes or no," or whatever? That North Star, I think, was something that George and John both provided for us, among other strong leaders, Chris [Christopher C.] Kraft, and many, many others.

WRIGHT: The visionaries that you worked with as well.

SHAW: Yes, absolutely. You were talking about the times, and we were talking about the kind of people that the Shuttle program drew. If you look back to the Apollo program, on a global scale, the opportunity to do such a remarkable human thing as put somebody on the Moon drew talent, the very best talent, out of many different career areas to the Apollo program. That is why, along with all of the money that the government provided for it because of what it was, the challenge that it provided to people, I think, is what really made it successful. You had the best people from lots of different areas working together on that program. To a much lesser extent, the Shuttle program was a little brother to Apollo, I think. We still got a lot of good people.

ROSS-NAZZAL: What do you think is the legacy of the first six women in your class?

SHAW: The legacy is the opening of American spaceflight to females, to women. Remember all of the women that were supposed to be in the Apollo program and none of them got to be? That was one model. Now, here's another model where it worked out the way it should have, and it opened the door for lots of women as we have here now. It also, I think, was a big factor in helping us attract smart women engineers and women in other career fields to come and help support the space program because now, there's a clear possibility, if they want to fly in space, that it's a possibility. Whereas before, there was no model for that. There were no females [flying], but now there are, and these six women were the ones that opened the door for that.

ROSS-NAZZAL: Did you work with many female engineers or scientists when you got here in '78? Or it was still pretty much a male's club?

SHAW: No, there were quite a few women here, and a lot of them came here because they wanted to fly. George and others would convince people to come here with the idea that maybe, if things work out well, you might get picked up for the office and get to fly. A lot of people came and spent a lot of time, some of them stayed here their whole careers, some of them left when they decided that wasn't going to work out for them, but it enticed a lot of really good people to come, I think.

ROSS-NAZZAL: I think that I have exhausted my questions.

SHAW: I really apologize for having such a lousy memory and not being able to give you nice, clear, crisp snippets with all of these examples, but that's just the way it is. Now if you'd ask my wife all these questions from her careers, she'd be able to give you all the answers and give you all of this history. She's got an incredible memory, but I just don't.

ROSS-NAZZAL: It's been a long time.

WRIGHT: A lot of stuff's happened.

SHAW: Yes, it has, but some people have good memories and some don't have good memories. That's the way it is.

ROSS-NAZZAL: I thank you so much for coming in today and driving down.

[End of interview]