

## ORAL HISTORY 2 TRANSCRIPT

RICHARD S. JOHNSTON  
INTERVIEWED BY SUMMER CHICK BERGEN  
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BERGEN: This is the interview with Richard Johnston for the Johnson Space Center Oral History Project on September 2, 1998, at the offices of the Signal Corporation, Houston Texas. The interviewers are Summer Chick Bergen, assisted by Glen Swanson and Carol Butler.

Thank you coming to speak with us again.

JOHNSTON: Okay.

BERGEN: Today we would like to talk about Mercury. Is there any place in particular you'd like to start?

JOHNSTON: Well, why don't we start at the beginning.

BERGEN: Good place.

JOHNSTON: I was working at the Bureau of Aeronautics in 1959, I guess it was. Yes. Was it then? Anyhow, I was in the Bureau of Aeronautics, and I was on a trip up into Boston. We heard the Russians had put somebody in space. Then, I guess a couple of months later, I heard NASA was being formed, so I sent an application up to a guy named George [M.] Low up in headquarters. I waited about two weeks and I called him, and I said, "I sent you an application. Are you all interested in hiring me or not?"

He said, "You haven't heard from Bob [Robert R.] Gilruth?"

I said, "No, I haven't."

So he said, "Well, I'll call him."

So in about half an hour I got a call from a guy named Max [Maxime A.] Faget. So Max said, "Yes, we want to hire you."

I said, "Well, I think it would be good if I came down and talked to you and I found out what you want me to do." I said, "I'll load up my car, and I'll drive down and talk to you tomorrow."

So I drove down to Newport News, and went out to where their offices were, talked with Max, and I went and looked around for housing. Max is a funny guy, because he's not real direct. He's smart as hell, but he's not real forward in talking to him.

Anyhow, we had just bought a new house up in suburban Maryland. So I got back, and Jean and I were sitting by the fire, and I said, "You know I talked to this little guy, and I really don't know exactly what he wants me to do." So I said, "I'm not real sure I want to go down there."

She says, "Well, why don't we take the car and we'll drive down tomorrow," so we did.

Then I went and I talked to Max's assistant, who was a guy named Bob [Robert O.] Piland, and then talked to a few other people. Then Jean and I went out and we found a house we liked, and we moved in about less than two weeks.

Going to work in the Space Task Group was like going into a candy shop, because there were things that most of the people from Langley—Chris [Christopher C.] Kraft [Jr.] wouldn't like to hear me say this—were never used to running anything.

So anyhow, I went to work. I walked into the office and the secretary said, "What are you doing here? You're supposed to be in California."

I said, "I just got my family down here."

So anyhow, I was in charge of the environmental control system. I knew something about all that kind of stuff, because I had worked on liquid oxygen and some other things for the Navy. So I was taking care of that, and then I realized nobody's really taking care of the space suits. There was a guy named Stan [Stanley C.] White, who was an Air Force colonel, flight surgeon. So I went to Max one day, and I said, "Max, you all been duped." I said, "That Air Force suit's not going to be compatible with an environmental control system."

BERGEN: Why did you feel that it wasn't going to be compatible?

JOHNSTON: Well, it had too high a back pressure for the system to handle it. So he said, "Well, what do you want to do?"

I said, "Well, I think we ought to go and evaluate. There are three suits. David Clark's [David Clark Company] got one, ILC's [International Latex Corporation] got one, and B.F. Goodrich [Company] has got one." I said, "I think what we should do is evaluate all three of them."

He said, "Well, let's go and see Bob Gilruth."

So we went in. He said, "If that's what you think we ought to do, let's go do it."

I said, "Okay."

So I go out to Wright Field [Wright-Patterson Air Force Base] and I'm all by myself. So I said, "Look guys, we're going to evaluate two other suits, not just the Dave Clark suit." Well, that really flipped them. They had me in a big circle and they started threatening me. Well, I took it for a little while. Finally I said, "Look, I ain't taking this off of you guys, and if the people I work for don't want to back me up, then I'm going to get the hell out, but I'm not going to take this off of you guys."

So I came on back home and I called the Navy, told them we wanted to look at the B.F. Goodrich suit, and I called International Latex. I went back out, set up an evaluation

program, and Wright Field did the evaluation. Well, it took them about three or four weeks, and they came in with a report, and guess what, they picked their suit.

So I went over and got to Max. I said, "Max, those Air Force guys, they're picking their own suit." I said, "It's a mistake."

He said, "Well, what do you think we ought to do?"

I said, "I think we ought to take the B.F. Goodrich suit the Navy's building."

He said, "Well, all right, let's do it."

So we went over and met with the astronauts. [Laughter] I told them this is what we were going to do. Well, that really got the Air Force guys irritated. They were yelling at me and giving me hell about this, and that, and the other thing, and I said, "Look, first of all, you all don't know what you're talking about. That David Clark suit is incompatible with the environmental control system. It's got too much back pressure. I think we ought to pick the B.F. Goodrich suit."

BERGEN: What made you feel that was the best suit to pick?

JOHNSTON: Well, it's because it was open and it had no back pressure. It was compatible with the environmental control system. I didn't pick it because I came from the Navy; I picked it because it was the most compatible thing.

Well, we had a big debate. I think I got out of there about 6:30. Got a speeding ticket on the way home. So I said, "Look, you guys, I know you have feelings about it, but you're not the ones that are going to select it. We are. And if you don't like it, I'm sorry." So we picked the B.F. Goodrich suit, which we got for \$5,000 a suit.

I had a meeting then with the seven astronauts, and I was going through—what made me think of this, Al [Alan B.] Shepard [Jr.] was there. I said, "Now, let me tell you what we're going to do. We're going to buy you a training suit, a flight suit, and a backup." Well,

he made some smart remark: if he were Bob [Robert R.] Gilruth, he'd fire me. I looked at him and I said, "Al, I know you're a smart pilot and you know a lot about everything. But," I said, "let me give you a scenario." I said, "Do you want to fly with your training suit?"

He said, "No."

I said, "Do you want to fly with your back-up suit?"

He said, "No."

I said, "Well, then it's not so dumb that I'm getting you three suits, is it?" And he backed off. And Al and I were friends from then on in. Unfortunately, he just died.

But that was the start of me getting into space suits. I hired a guy named Lee [N.] McMillion, who worked for me then. I had a guy named Frank [H.] Samonski, was working with the environmental control system. So we gave a contract to B.F. Goodrich to build the NASA suit.

Then one day they were having a meeting on the animal program, and I went to the meeting. After it was over, Charlie [Charles J.] Donlan, who was the deputy director, he said, "Did anybody take any notes?"

I said, "Yes, sir, I did."

He said, "Would you mind writing those up?"

I said, "No."

So about a day later I gave him about fifteen pages of typed minutes on that meeting. He said, "Oh, this is wonderful." He said, "Why don't you run the animal program until we've got a guy named Jim [James P.] Henry coming in, but go ahead and you take care of it."

So I said, "Sure, I'll be happy to do that." So I took over the animal program.

BERGEN: Tell us a little bit about the animal program.

JOHNSTON: Well, the animal program, we were going to fly some really small chimps. A national—I don't know what it was, it was an advisory committee had recommended that we fly some animals before we fly men, which was really not necessary, but we did. Anyhow, we decided we would fly these chimps. We built like a box, and they had three little windows that they had to identify to match them to get a drink or to get a pellet or whatever. The people at Holloman Air Force Base had the chimps, and a guy by the name of Rufe Hesberg, who was the commanding officer right there, was the one who was in charge of all this. We went ahead and did this.

The animal program was a very interesting program. We had to built special trailers for them and just do a lot of things. I really enjoyed it. And then I ended up hiring a couple of other guys to take care of some of these other things, but pretty soon I had about, I don't know, seven or eight people working for me. The animals were trained. It was really interesting, because they put these little chimps inside of these things with these windows in front of them, and if they didn't do it right, they got shocked, which they didn't like at all. So anyhow, this is how we trained them.

Jim Henry came in later, and he went to work really for me. He was a colonel, a real nice guy. I think he died a couple of years ago. But anyhow, McDonnell-Douglas built the boxes they fit in with their couches and the controls and all that. It was just an interesting program.

We flew one of them in a suborbital flight, and one of them in an orbital flight. The one in the orbital flight, when they opened it up, he was so mad because he got shocked all the time. He was something else. But anyhow, that's how I built the crew's systems.

Then one day they called me, and they said, "We've got these doctors sitting over there and nobody's really watching them. We're thinking about forming a division and putting Stan White as the division chief, and you as the deputy. Is that okay with you?"

I said, "Sure."

So we did that. We ended up running—well, we had all the medical stuff. We also had the couch, which was a form-fitted couch for the astronauts that we had responsibility for. We had the responsibility for the medical instrumentation. Oh, God, I can't remember all the things we had, but I think we probably ended up with about thirty people in that branch.

I really enjoyed it, and most of the people I had working for me were loyal, very loyal. In fact, most of the people who worked for me while I was at NASA were very loyal, very loyal. You know, loyalty is a two-way street. Every now and then I would run into a guy who was not doing what I wanted him to do, or was arrogant or whatever, and I got rid of them. But the people who were with me in crew systems would have walked the plank for me, and I would have done it for them. So consequently, we just got a lot of things done. It was a good experience.

Now, let me see. What else can I tell you about Mercury?

BERGEN: Let's talk about the couches a little.

JOHNSTON: The couch. Okay. Well, the couches were form-fitted to each astronaut. They would take all the load when the thing landed or when it was taking off. We took them up to the Johnsville [Pennsylvania] centrifuge. That's where they used them for simulating a launch and a re-entry. They were molded to fit each astronaut's body. I don't know what else I could tell you about them. Somebody said we should have molded couches. I don't know who did it, but it wasn't me. But we made them. We had molded couches, and I don't know where they are now. I've lost track of them. Probably some of them are up in the Smithsonian [Institution]. It was a good experience.

The Mercury astronauts—let me talk about them a minute. I worked with John [H.] Glenn [Jr.] when I was at the Bureau of Aeronautics. I didn't know him well, but I knew him

well enough and he knew me. The rest of them I didn't know at all. They were quite a collection of people. John Glenn was probably the best of the lot, and Al Shepard was second. And it goes downhill from there. [M.] Scott Carpenter, he flew the second orbital flight, and he saw these things going by the windows, he was re-entering and didn't pay attention to what he was doing, and he overshot the landing sight by 200 miles. Gus [Virgil I.] Grissom, he was a good guy. He liked to chase women. In fact, a lot of them did. Wally [Walter M.] Schirra [Jr.], he was kind of a smartass. He did himself in in his last Apollo flight when he turned off all the speakers and everything, and he never flew again.

Who else did I leave out? [L.] Gordon Cooper [Jr.], I never really figured him out. He was probably a good pilot, but he flew the last Mercury flight. I think it was thirty-four hours. I forget how long it was, but Gordon Cooper, he was different. Now, who did I leave out? Let's see, Glenn—

BERGEN: Deke [Donald K.] Slayton.

JOHNSTON: Deke Slayton. Deke was a good guy, he really was. He was scheduled to fly a Mercury flight, and he had some kind of a heart problem, and the doctors grounded him. He never really quite got over that. But anyhow, he was made the head of all the astronauts. I always felt sorry for Deke because he didn't get to fly. He eventually flew in Apollo-Soyuz, but he took over running the astronaut corps, and he did a good job.

After the Apollo fire, Gilruth called me one day and wanted me to go to Washington with him to review the report. So I said, "If you want me to go, I'll go." So I went up with him, and I spent a couple of days there.

He came by the office where I was working, and he said, "What are you doing for dinner tonight?"

I said, "I have no plans."



He said, "Well, let's go out and eat." So he said, "Would you mind staying up here this week?"

I said, "No, sir. If you'd like me to do that, I'll do that for you."

So we went out, had dinner, had a couple of drinks, and he said, "How about going up on the [Capitol] Hill with me all week?"

I said, "If you want me to do that I'll do it." I said, "I'm going to call my wife and get her to send me some more clothes."

He said, "Well, why don't you do that."

So I went up and sat behind him for all the hearings on the Apollo fire. I don't know why I'm going into all this, but the reason I guess I am is that they were tough days. They were tough days. I'm getting away from Mercury and I'm starting to talk about the Apollo fire.

But I got to know Deke real well. Deke was a very nice guy. I moved around a lot in the center after the Apollo fire.

Eventually Gilruth and Kraft called me up one day and wanted to know if I would go to work for Chuck [Charles A.] Berry. He talked all around about it. I said, "If that's what you'd like me to do, sure, I'll do it." But I said, "If I'm going to take care of the hardware, I don't want him butting into it."

So they said, "Okay, well, why don't you just go do that."

So I did, and about two or three months after that happened, he moved to headquarters. He never really trained anybody to take his job. He left me hanging, which was okay, but he came back at Christmas to clean his office out, and he had one of these secretaries who was very protective, you know. "If you want to see Dr. Berry, you'll have to talk to me."

So I went in and I said, "Look, I want to see Dr. Berry."

She said, "Well, he's busy."

I said, "Do you want to keep your job?"

She said, "Yes."

So I said, "Well, then when he gets off that phone, you tell him he isn't getting any more phone calls, because I need to talk to him." I said, "He's going away from this place. He just left it in a shamble."

So I went in and I said, "Chuck, you know, I don't know why you've done what you've done, but you've done it. You've walked away from here. Would you tell me what doctor you trained under you that would like to take your place?" I said, "There isn't anybody. Most of these guys are GS-13s—doctors." I said, "Let's see now, which doctor outside do you want to bring in?" I said, "You don't want anybody coming in taking your TV time." I said, "You're stuck with me." So I got the job. I ran the medical stuff all through the Skylab Program. Chuck and I remained friends. I never took a lot off of him. I don't know why I'm going back through all of this with you.

But I liked the job of running the lab, and I really kicked butts and got things lined up, and we published the medical results of Apollo. When the Skylab was over within two or three months, we had a book about that thick, and it was so big with all the medical results of the Skylab.

What really got me into this, when I went up there to work for Barry, I had several astronauts tell me, "You know, these doctors do all these tests on us, but they never publish anything." So I went up there and I got the guys together, and I said, "Look, you all are running all these medical tests on these astronauts, and you're not publishing anything, and you should be. So you'd better stand by. When Apollo's over, because we're going to write a book. You guys are going to write your parts of it, and we're going to get it out in about two or three months." So we published a book. I don't know if you've ever seen it, but it's a blue book. Have you seen it?

BERGEN: Yes.

JOHNSTON: So we published that. Then in Skylab, they knew I was going to jump on them again. So we got the medical results of Skylab out real quick. I liked that job. I told you I was just going to talk about Mercury, but I enjoyed that job. I really did.

In 19—I guess it was '76, we'd had a guy named George [S.] Trimble, who was the deputy director of the [Johnson Space] Center, and he went up to the Bunker Ramo Corporation as president, and he called me a couple of times about coming to work for him. Then I told him I would do that. Jean and I were out in Colorado, and I said, "Let's drive back through Chicago, and I'll go talk to George and see what the hell he's got in mind."

So I did, and he offered me a job, and he offered me all kind of stuff, and I went up there. Biggest mistake I ever made in my life. He handled his company by firing people, and I'm not used to that. So finally, [Sigurd A.] Sjoberg called me one day, and he said, "We haven't found anybody to fill your job. You got any ideas?"

I said, "Yeah. Me."

He said, "Are you serious?"

I said, "Yes." I said, "I'm not happy up here. Jean's not happy."

He said, "Why don't you come down next week and we'll talk."

So I went down and I got my old job back. Not only back, they put the science stuff in it, so I had the medical stuff plus the science stuff. And I really enjoyed it. I really did.

I'm getting afield of Mercury. Anyhow, that's kind of the way my career when with NASA.

BERGEN: Can we go back to Mercury and talk about the process that you and your contractors went through in deciding on 100 percent oxygen environment? Can you explain how you came to that decision, and what processes you went through?

JOHNSTON: Well, that decision really was made before I really came on board. I didn't disagree with it, because I think it was the right thing to do. After the Apollo fire, there was a couple of people up in headquarters were trying to get me fired because I was the one who said we ought to do this, and that's really not true.

BERGEN: There were some differences between Mercury and Apollo and why they decided on the 100% oxygen, right?

JOHNSTON: Yes. Well, what we did, though, we had 100 percent oxygen on Mercury, we had 100 percent oxygen in Gemini, and we had 100 percent oxygen in Apollo. The Apollo fire happened not because there was 100 percent oxygen there, but because of the sloppy things that they had in that spacecraft, and that thing went off like a bomb.

The day that happened, I got home and I was having somebody to dinner, and they couldn't come, and I got a call from some of the guys working for me. I was running crew systems then. They said, "You'd better come out because we've had a terrible fire. We think we've lost all three of the guys."

So I went out there. God, half my division was there. Joe Shea called me. He said, "We got a Gulfstream going to the Cape [Canaveral] tonight, and I want you on it."

I said, "Okay, I'll be there." So I flew down there that night, and that was one of the worst periods in my life. But I spent about a week down there, looked at those suits and all the things that were—it was horrible. Some of the people, Ed [Edward H.] White [II] was one of my favorite astronauts, and I really felt terrible. He was burned to death.

Anyhow, I spent a couple of weeks back there, and I came back home and I got all my division together in the conference room, and I said, "Look, we're going to straighten this out."

We're going to do what we have to do about new materials. We're just going to straighten this out." And we did.

That was a tough period in my life, it really was. I got called up with Chuck Berry to go before the Senate Space Committee and explain why we had 100 percent oxygen in the spacecraft. Funny thing is, we flew back on Eastern [Airlines]. We landed at [Houston] Hobby [Airport]. As we landed, a big ball of fire came up over the window right next to where I was sitting. Scared the hell out of me. So Chuck Berry was sitting next to me. I said, "Chuck, my God, did you see that?"

He said, "Yes."

Well, we taxied on a little bit more, and another big ball of fire comes up over the plane. So we get back in by the gate, and another big ball of fire comes up over that thing. Well, I pulled the door and I start out, and I thought, "You're going out there and get yourself burned to death." So I yelled at the guy standing on the ground. I said, "Get your butts over here and get this fire out." I said, "You're going to lose this whole airplane."

Well, we got off, Chuck Berry and I, took Chuck and I to, I guess it was Eastern Airlines office, and we talked. They tried to calm me down, but it didn't work. It was a tough period in my life, that fire. It really was. I think most of us that really cared had a new dedication to doing what had to be done so we'd never have another repeat of that. And we never did. We never did.

I really think what happened with the Apollo fire—we had two programs going. We had Gemini and we had Apollo. Unfortunately, a lot of the people who was running Gemini were not paying all that much attention to Apollo, and we just let it go. One hundred percent oxygen, and down there on the pad they had all kinds of stuff in the spacecraft. I'm talking about flammable stuff. When that thing went off, it went off like a bomb, just a bomb. And the spacecraft is designed with an inward-opening hatch, which precluded the guys getting out, because once that thing went off, it was lights out.

That was a tough period in my life, I'll tell you. It really was. But I came back to work and I told the guys working for me, I said, "Look, we need to rededicate ourselves to getting this straightened out for those guys. It's a shame they were burned to death. I don't want any of you feeling like you're responsible for it, but we've got to do what has to be done." And we did.

BERGEN: Let's go back to Mercury again. In the previous interview, you made a statement that the Mercury Medical Research Program was not as barren as one would have believed.

JOHNSTON: Not as barren?

BERGEN: Not as barren as one would have believed.

JOHNSTON: No, it wasn't. It wasn't. We had a group of people outside of NASA who felt we should fly those animals, so we set up a program to do that. We had a whole lot of things that we were measuring on those chimps. We didn't learn an awful lot from flying those animals. I mean, we really did it to satisfy people not in the agency.

BERGEN: Did it help you perfect any of the systems?

JOHNSTON: Not really. Not really. I think that the couch was almost like a substitute for a space suit. I think that we flew two chimps—we didn't learn a lot from them. In fact, we shocked the one for the whole time he was up there, and he was so mad when they opened that hatch, that he really started biting people.

But as a result of flying those, there was a national—there was a committee from the—I even forget now where they're from. Anyhow, they had insisted that we fly these

chimps. They came in and we went through all the data, and they backed off and that was the end of it. Those trailers, I guess, are over at [George C.] Marshall [Space Flight Center] now. I don't know how Marshall ended up with all of our trailers, but they did.

I don't know what else I could tell you about the animal program. I think we learned some things, but I really think that the real things we learned medically were with the astronauts themselves.

BERGEN: What types of things did you learn?

JOHNSTON: We learned a lot about how the human body behaves in going from 1-G and to zero-G, and how it reacted to being in zero-G. We learned an awful lot—I guess Glenn's flight—Shepard's flight was a suborbital flight, and it was only like seven minutes. We learned something from his flight, not a lot. Then Gus Grissom flew another suborbital flight, and then Glenn went. Then after Glenn, it was Scott Carpenter, then it was Wally Schirra, and then Gordon Cooper.

We learned something from all those flights, medically that is. First of all, we found out man could tolerate the launch, zero-G, and the re-entry, without any problem. It was a worthwhile program, it really was. As far as the medical stuff, we had them pretty well instrumented, so we knew a lot about their heart and a lot of other things.

BERGEN: Did you have to develop some new technologies to measure those things?

JOHNSTON: No. No. We put electrodes on their chest, and we sent that data over to the [Mercury] control center. Actually, the control center was down at the Cape then.

We learned a lot from the Mercury program as far as the medical aspects of space flight, really did. In fact, we published a book on the medical results of Mercury. I don't know exactly where it is now, but we did. I don't know what else I could tell you about that.

BERGEN: Did you feel confident before Alan Shepard went up that man would be able to satisfactorily endure those conditions?

JOHNSTON: I had no problem. No, I had no problem with that. I think that we had flown these chimps' suborbital flight and orbital flight. They didn't have any problem, I didn't see why Alan Shepard would.

Alan Shepard was an extraordinary guy, he really was. In fact, he signed a picture for me that I have hanging on my wall at home. For a long time he was not really real nice to me, but the more he got to know me, the better it was. I felt really so bad when I went to his funeral, because he was an exceptional guy, he really was. I look at all this original seven, John Glenn and Alan Shepard and Deke Slayton were probably the cream of the crop. Wally Schirra, he didn't want to take anything from anybody. In fact, when he flew his Apollo flight, he turned off the cameras and everything, and that was the end of his flight. [Laughter] Chris Kraft did him in. But they were a good group as people, but as I say, the cream of the crop was Deke Slayton and Al Shepard and John Glenn. I was real pleased when Shepard got a chance to fly on Apollo. It's something he always wanted to do, and he got to do it. I'll have to bring that picture in here and let you see what he signed it.

BERGEN: Another thing I'd like to talk about is some of the contractors that you worked with in various areas.



JOHNSTON: The suit contractor was B. F. Goodrich, and they were in Akron, Ohio. I'd gotten to know them when I was working for the Bureau of Aeronautics. They were a very, very, very good company to work with. We really had the Navy buy those suits. We gave them \$5,000 a suit, which was like nothing. I don't know what the hell we pay for a suit now, but it's a lot more than that.

BERGEN: Did you have to make a lot of modifications to the suits?

JOHNSTON: No, no, no. The thing about the Navy suit, it was basically open from the helmet all the way through. So if you had the inlet side was down here, and there was a distribution system that sent all the gas around over all the body, and it came back up, and the helmet had an outlet. So you circulated the gas over the body, brought it back up for him to breathe, and took it back down into the environmental control system where there was a lithium hydroxide bed that scrubbed the CO<sub>2</sub> out, and there was a heat exchanger which cooled it. As I recall, we also had some charcoal to take any odors out that were in it. So it was a relatively simple operation.

The suit itself was the latest suit that the Navy had built and was used in a lot of their fighter planes. It was one of the better suits that was built at the time. Funny thing is, it's the only B.F. Goodrich suit we flew was the one at Mercury. When we got to Gemini, we picked the Dave Clark suit. They had made some changes that they should have made if they wanted to fly in Mercury.

BERGEN: Did you feel that the Navy suit was adequate throughout Mercury?

JOHNSTON: Oh, yes.

BERGEN: I knew there were some temperature problems astronauts had on some of the flights.

JOHNSTON: I don't think so much the suit was the problem, though. It might have been. That's been a long time ago. I'd have to go back and look in the book, but I don't think we had a problem with the suit. I think we had more problems with the environmental control system, the way it was cooling, and whatever. But I don't recall any of the astronauts in flight are having a problem with that suit.

BERGEN: What about some other contractors? Do you work with McDonnell?

JOHNSTON: McDonnell-Douglas? I worked with them with I was with the Navy, Bureau of Aeronautics. They were a good company. They didn't always like to take direction, but I had no problem with them. I think John [F.] Yardley was the guy in charge of the thing out there. He was a good guy. He later came to NASA, but he was a very smart guy—smart, very smart. I had no problem at all with McDonnell Douglas. If something was wrong, you'd talk to them about it, they would correct it if they thought it was wrong. If they didn't think it was wrong, we'd debate it. But I had no problem with them.

Let's see. Did they build the Mercury spacecraft? I guess they did. They had a contract with Air Research, who I'd worked with when I was with the Navy. They did a good job on the environmental control system—really did an outstanding job. In fact, most of the people who worked on things like the environmental control system, or the seats, they were all good, solid people, and they were all dedicated to getting the first man in space, even if the Russians had beat us at it.

BERGEN: You mentioned earlier when you were talking about the animal flights, that there were outside groups that basically forced you to institute that program.

JOHNSTON: Yes.

BERGEN: Were there any other outside groups that put pressure on your or your division to do anything in particular?

JOHNSTON: Well, they didn't so much put pressure on my division as they did on the Space Task Group. I was the deputy chief of the division, and so we had to bear the brunt of their insistence that we do things, which was all right, because we did what they wanted, and I think we were successful. I can't think of any reason why, after we flew both of those animals, they had no problems with us flying the men. There were some people on that committee that were pretty strong about things that shouldn't have been. But after we demonstrated what we did with the chimps, they never bothered us anymore.

BERGEN: Are there any special memories you have of the Mercury Program?

JOHNSTON: Special memories. Well, I have to think about that. I guess Al Shepard's first flight was kind of a special memory for me. Gus Grissom's flight afterwards was kind of anticlimactic. I think John Glenn's mission was very memorable to me. So I don't know. It's a funny thing. You work on a program like that, and each flight has got something special about it. John Glenn is a great American, in my opinion. I've known him a long time, not that we're real close, we're not. He's getting ready to fly again. I guess of all the guys who flew in Mercury, Al Shepard and John Glenn are probably the people I think were the best. Schirra to some extent, but once Wally got in flight, Wally was in control, you know.

BERGEN: Did you work closely with any of the astronauts on the seat or the environmental control system?

JOHNSTON: Yes. In fact, see, the astronauts, the original seven, all were assigned certain areas to follow. I guess I had Wally Schirra was worried about the suit and the environmental control system, and he didn't pay a whole lot of attention to it, he really didn't. I don't know exactly who else was—I can't tell you what the other guys did, it's been so long. I enjoyed working with Wally. Wally was a strange guy. He was nice a lot of the time, but sometimes he was not nice. When he was not nice, you had to treat him that way, and I did.

It was funny, after the Apollo fire, Dr. Gilruth called me one day to come over, and he said, "Paul [E.] Purser's leaving. I'd like to get you to come over here and be my special assistant."

I said, "Well, can I think about that?" So when I'm talking to my wife, I said, "The old man wants me to come over there. I guess I'm going to have to do it."

So I went over there. I enjoyed it. But after Wally's flight, he came over and talked to me. He had all the guys in the control center mad at him. He had Gilruth mad at him, he had everybody mad at him. He came over to talk to me.

JOHNSTON: I said, "Wally, I don't know what to tell you. Some of the things you did on that flight were not right, and you know it. But there's nothing I can do. You're going to have to make peace with Kraft, you're going to have to make peace with Gilruth." I said, "I think some of the things you did were wrong, but that's up to you. You decided to do it. You did it, but you're never going to fly again, I'll tell you right now."

We had a whole bunch of astronauts living in Timber Cove. Do you know where Timber Cove is? Gus Grissom and Wally lived next door to each other. John Glenn and

Scott Carpenter lived next to each other at the end of the canal. Gordon Cooper lived across the lake. Let's see, that's four, five. Where did the other guys live? Alan Shepard lived downtown. I'm trying to think where the other guys lived. Who'd I leave out? Deke lived out here in Friendswood. But they were all nice guys.

The thing I found in dealing with them, you didn't let them walk over you. If you did, you were dead. You were dead meat. If you were wrong, you admitted it, but if you weren't wrong, you didn't let them walk on you. So there was a lot of mutual respect.

BERGEN: Is there anything else you'd like to tell us about the Mercury Program before we close?

JOHNSTON: The only thing I'd like to tell you about the Mercury Program, Max Faget has the patent on the Mercury spacecraft. I don't know if he told you that, but if he didn't, I'm telling you. There were six or seven other guys on that patent. But Max, without a doubt, is one of the smartest guys I've ever worked with. He's quiet, unassuming. I think that I feel very fortunate to have had him for a boss, and I feel very fortunate to have him for a friend. Jean and I've had some real good times with he and his wife traveling in Europe and doing things together. Unfortunately, she's dead.

But Max is an extraordinary person, he really is. He never really pushed for his name to be used, or whatever. A very quiet, unassuming guy. Very nice man, very nice. And of all the people that I work with at NASA, I've got to tell you, Max Faget's probably the best one. Very quiet, unassuming. He never interfered with me running my division, never. In fact, it was after the Apollo fire and I was playing golf. I had taken the afternoon off to play, and somebody said, "How do you think you're going to like working for Aleck [C.] Bond?"

I said, "What?"

They said, "Well, Max has got two deputies now," Aleck Bond and another guy, I can't think of his name right offhand. Well, that just really infuriated me. I was the senior division chief, and here I got this guy. Have you all talked to Aleck? Aleck's a nice guy.

So I went over to Gilruth and said, "What the hell have I done to deserve this?"

He said, "Nothing, Dick."

I said, "Okay." Well, it was shortly thereafter he asked me to come over and go to work for him. I don't dislike Aleck, don't get me wrong, but Aleck is—oh, he's like an old maid.

But I went and talked to Max about it, and Max said, "Dick, you do such a good job running your division, I didn't want to move you."

I said, "Well, Max, why didn't you call and talk to me about it?" I said, "I don't like hearing about something like this," whatever.

So anyhow. And I was the senior division chief. That's the hell of it. But anyhow, I lived with it. Then I went to work for Gilruth, and from there on I had a lot of interesting jobs.

BERGEN: We'll talk about more in depth about those in future interviews.

JOHNSTON: Yes, it is ten after ten.

BERGEN: Thank you very much.

JOHNSTON: You're welcome.

[End of interview]