

ORAL HISTORY TRANSCRIPT

R. WALTER CUNNINGHAM
INTERVIEWED BY RON STONE
HOUSTON, TEXAS – 24 MAY 1999

VOICE OFF CAMERA: And speed.

STONE: When were you—when did you decide you wanted to fly an airplane?

CUNNINGHAM: Well, one of the—in fact, maybe the only recollection I have as a young child in wanting to do anything is, I wanted to become a lieutenant commander in the Navy Air Corps.

STONE: A lieutenant commander in the Naval Air Corps.

CUNNINGHAM: Right.

STONE: That's it.

CUNNINGHAM: And I'm sure it was because I had seen a movie. It was probably in 1940. It might've been *Hell Divers* or something like that. And it was a Navy pilot, and I wanted to be a pilot.

STONE: So, when you got out of school?

CUNNINGHAM: Well, I never gave a lot of thought to how to do any of these things. And I'm

one of those people that never really looked back. I only recall that when someone asked me after I became an astronaut. But I never grew up wanting to be a fireman. All I remember is just kind of keeping my nose to the grindstone and wanting to do the best I could as—I didn't realize at the time, but that was because I always wanted to be better prepared for the next step. I've always been looking to the future. I don't live in the past. And so, I didn't think ahead to it. I'll give you an example of how it led to becoming a pilot, though.

When I was a senior in high school, a lot of my classmates were in the National Guard (this was in Southern California) and they started calling up the National Guard for the Korean situation. And I was not in the Guard. Didn't get called up. I graduated from high school, but I remember thinking, "Everybody's going to be called up." (They had a draft at the time.) "And the best thing to do is to enlist and go ahead of everybody else, [then] be back ahead of everybody else, and ahead of the wave." And I convinced a friend of mine, who was in the Navy Reserve (a classmate) that he and I should go join the Navy. And we joined the Navy. I joined the Navy as an enlisted man. And Ted Cook was this fellow; he's police chief of Culver City, California, right now. But I did better on the entrance test than he did, so I left a month earlier and went to boot camp. We both were in the Navy for 4 years, and I went on into the Marine Corps. But I never saw him once from the day after I went to the Navy!

STONE: You also didn't realize when you went in the Navy that you had to have some college requirement before you could fly airplanes, did you?

CUNNINGHAM: No, I didn't think a whole lot about it. I was in my first year of college. I was planning on being an architect, kind of foolishly at the time. And—but when I got into the Navy, in order to go to the various schools you had to take GED tests. And in this case,

the best thing was to get a 2-year college equivalency test, which I eventually took and passed; and that enabled me to apply for flight training.

STONE: So, you became a pilot.

CUNNINGHAM: Went to Navy flight training. I've got several different discharges, because I was discharged as a—what was I? I guess I was discharged as an airman in the U.S. Navy and immediately enlisted as a reservist, because all of the flight training was Reserve. I was Navy Reserve while I was at Pensacola, I then opted to take my commission in the United States Marine Corps.

STONE: Why did you decide to be a Marine pilot as opposed to a Navy pilot?

CUNNINGHAM: Well, we all had the same training. But in the Navy in those days, you ran the risk of being assigned to torpedo bombers or transport pilots. And the Marine Corps guaranteed you that your first tour, you would be flying single-engine fighter planes.

STONE: That's what you wanted to do.

CUNNINGHAM: Right. I didn't want to take a chance of doing anything else.

STONE: And you did that.

CUNNINGHAM: I did that.

STONE: Did you fly fighter planes in combat?

CUNNINGHAM: I was in the last squadron that had a mission in Korea, but we did not ever see any combat. We got to chase a couple of these “bed-check Charlies,” little light airplanes flying around at night. Tremendous competition and a fight to go—to see who would get launched just to shoot down anything that you could!

STONE: Right.

CUNNINGHAM: I was flying night fighters at the time, and we would have—one might be having dinner at the Officers’ Mess there, and we’d get a—the alarm would go off, and we’d have an alert. And we always had somebody on strip alert. They would launch, and we all would fight and run a half mile down there to see who would be the next airplane in line, just so we’d get a chance to shoot. Never shot at anything ever.

STONE: You never got to—at anything?

CUNNINGHAM: Never.

STONE: Came back home. The war is over.

CUNNINGHAM: All that training and nobody to show for it!

STONE: But had you, at that point, figured that, “Well, I—okay, I’ve had my fill of flying airplanes.”

CUNNINGHAM: Oh no. You know, it’s a—flying is—you can’t get enough of it if you really

are an aviator. And it's the easiest thing I ever did in my life. I've often likened it to sex. When you're getting a lot of it, there's no way you can get enough. And actually, if you're away from flying for a long period of time (and much like sex), then it doesn't become quite as urgent for you. But when you're committed to flying, there's nothing—I have not really done hardly any flying in the last 20 years, and yet I cannot hardly stand today to look up, especially in bad weather, and hear a T-38 going through the clouds up there. It honestly hurts.

STONE: You went to UCLA [University of California-Los Angeles]?

CUNNINGHAM: I went to UCLA.

STONE: Studied physics.

CUNNINGHAM: Yes.

STONE: That's not architecture.

CUNNINGHAM: Well, I came back, went back to college as a freshman after 6½ years in the Service. And it's because I realized that, in the Marine Corps, even in those days, without a college education I wasn't going to go very far. I didn't expect them to be able to send me to Test Pilot School, for example. I didn't have the background that they were looking for. So, I took a career path which, it turns out, is the only way that I ever would have made it as an astronaut. I went out and spent the next 8 years, full-time student, flying with the Marine Corps Reserve, working on a bachelor's, master's, and eventually a Ph.D. in physics, which I did not complete.

STONE: I want to talk about why you didn't complete it in a moment. But, did you go to UCLA to study physics thinking that "Someday, I'm going to become an astronaut." Was that the next thing that "I'm going to"?

CUNNINGHAM: No, it was not. I've lived my whole life, as I said earlier, just trying to do the best at this stage because it'll kind of make it easier at the next stage. I'm not sure if I'm ever going to reach the point where it's supposed to all pay off, but I'm always preparing for some payoff that may or may not be there. So, I—this was 1956 when I went back to school. 1959, they selected the Mercury astronauts ('58 or '59). And I can remember reading about it in *Life* magazine; and I remember thinking, "Boy, is that—that's really neat!" you know. "Sure wish I could do that." But I was locked-up, full-time student. I was just loving going down and flying whenever I could—flying with the Marine Corps.

And then it came along, in 1961, I was a student at UCLA (a graduate student at UCLA). And in 1961, we had the first American go into space. That was Alan [B.] Shepard [Jr.]. And at the time I was doing graduate work in physics at UCLA. I was a tutor. I had a research fellowship. I was working halftime at the RAND Corporation. I had about four different jobs I was doing because I was married and raising a family and already had had one child. And so, I'd have to get up very early—I'd get up very early. Living in San Fernando Valley, I'd fly—excuse me, drive. (They thought I was flying. I was driving a little Porsche speedster at the time.) Drive over the mountains and start to work very early in the morning, like 7 o'clock, at the RAND Corporation. And then through the day I would [go] back and forth to school and do various other things. And this was the morning of Alan Shepard's launch. It was May 5, 1961. And I recall being vaguely aware that that was going on that day, but I had the radio on in the car.

I was driving up to—over Mulholland Drive and down into Santa Monica. And I was listening. It was just before 10 o'clock in Florida, and it was just before 7 o'clock in California; and as it got down to the last 4 or 5 minutes of the countdown, I was so excited that Alan Shepard was about ready to be launched that I couldn't drive anymore! I pulled over to the side of the road and I listened. And they got to the final count: 3 – 2 – 1 – liftoff. And before that Redstone rocket had cleared the tower, I heard myself yelling out loud and didn't even realize it. I says, "You lucky son of a bitch!" And later, I realize that that's kind of when it changed from being just a generalized envy to a real desire to go down and do that job. And 2 years later, I was sharing offices with that same Alan Shepard. And I began to realize he wasn't so much a lucky SOB as he was a tough SOB. You probably know Alan and—

STONE: Yes.

CUNNINGHAM: —and Alan was a great guy.

STONE: You worked for the RAND Corporation doing research work that is—remains classified to this day, as I understand it. That was going to be your doctoral thesis.

CUNNINGHAM: Well, [clears throat] (excuse me).

STONE: And you didn't get to write it because it ends up being classified, right?

CUNNINGHAM: Well, not exactly.

STONE: Okay.

CUNNINGHAM: At the RAND Corporation, I was working on defense against submarine-launched ballistic missiles trying to write in, as I look back at it now, the crudest fashion the equations that would intercept a missile on the rise. So, we had tracking data. And now we have, you know, weapons that are just unbelievably accurate on doing things like that. But back in those days, it was like we were kind of trying to invent that. At the same time, I was doing my doctoral work on a—the Earth's magnetosphere. It was a tri-axial search coil magnetometer, and we were trying to measure fluctuations in the Earth's magnetic field—early, very early science in—space science. And it was during this period of time that I applied and got accepted at NASA. I never did finish the thesis.

STONE: That work that you were doing at [UCLA] eventually ended up at NASA and ended up flying in a mission, did it not?

CUNNINGHAM: Well, yes. The unmanned program. It flew on a—the first orbiting geophysical observatory at—that flew up, managed by Goddard Space Flight Center [Greenbelt, Maryland]. I didn't have anything to do with it after that.

STONE: At what point did you start working very hard to get to become an astronaut?

CUNNINGHAM: The only thing I can ever recall doing specifically to become an astronaut, because I looked at it that I had become one of, if not the best, fighter pilot in the world.

STONE: There you go.

CUNNINGHAM: I mean, I just—I never had anything but confidence in my flying ability. But

it takes a lot more than that. And I had fulfilled a lot of the technical academic requirements, because as time went on they asked for ever more demanding academic background. And the only thing that I can ever recall doing specifically to become an astronaut was: the summer of 1963, after applying, I began to work more seriously on my physical condition. I've always been a athlete, a gymnast and did a variety of things, did a lot of swimming. But I recall that summer, for the first time in my life, I began running on the beach in Santa Monica because I read that that's what the astronauts did.

STONE: And you thought—you were thinking, "I'm going to be an astronaut. I'm going to be an astronaut."

CUNNINGHAM: I don't recall being [clears throat] (excuse me)—I don't recall being—taking it for granted that I was going to become an astronaut.

STONE: The original seven astronauts were the great heroes of the '60s. Take away [President] John [F.] Kennedy, you have the astronauts left. Kennedy's a big hero. The astronauts right underneath him. Everybody in the world knows who they are. You looked at these people as gods. You were in the (what?) third class of astronauts? Second class of astronauts?

CUNNINGHAM: Yes. Third.

STONE: Third class of astronauts.

CUNNINGHAM: Yes.

STONE: When you got to Houston and met those—I won't—tell me what you thought of when you met those guys.

CUNNINGHAM: Well, when I flew down here—(excuse me) [clears throat].

STONE: Can we stop the camera just a minute for us to get him some water here?

VOICE OFF CAMERA: Rolling.

STONE: So, when you came to Houston and met the original seven astronauts, I want to know what your reaction was toward them and what was their reaction with all you new guys?

CUNNINGHAM: Well, I've always had a rather irreverent approach to authority and figureheads and things like this. I remember back as a graduate student at UCLA, we had a illustrious professor on the staff, a fellow by the name of Dr. G. J. F. McDonald, who had been a NASA scientist at one time, too (coincidentally). But, you know, everybody was always calling him "Dr. McDonald—Dr. McDonald," and I always called him, "G. J. F.," like everybody else. And I think some of it was just kind of contrived on my part (as I look at it). But I just—I've never held anyone in awe.

When I—after I was selected, I guess the first time I saw these guys was when I was getting down to the final round of the selection process. We came here to Houston. And, who was it? Not Max Peck, but the guy that worked for Max Peck at the Rice Hotel. I can't remember his name now [Wes Hooper]. But he knew all these guys. We were having the final selections at the Rice Hotel, and we were all there (anonymously, under assumed

names). But in the old Cap Club there, they were—there was a couple of them having drinks. There was Gus [Virgil I. Grissom]—Gus and I think Al was there, and a couple of other people. And they invited me to sit down with them to have a drink. I was impressed.

I was impressed that they could kind of take me for granted. And I was—it's kind of like trying them on for size, if you will. And I came away thinking they were like a lot of other fighter pilots I knew. But then between then—after I got selected, it was a couple of months before we were reported. And myself and another squadron mate, I hopped in a A-4D I was flying at the time, and the two of us flew down here. He was from Beaumont [Texas]; he was a Marine friend of mine. Came down, went over, and buzzed up Beaumont pretty good and came back and landed at Ellington [Air Force Base, Texas]. (Never did get caught.) Went inside the hangar, and there was a couple of guys around.

And they let me have a locker and the—I remember Hugh, my friend from the Marine Corps, he was looking at the names on the lockers, you know. And they—I remember it—being impressed they all had Dayner boots, which were custom-made boots, and Protection, Inc., helmets, a little racier looking helmets. And I remember thinking, “Well, I'm going to get some good flight gear.” And Hugh Purser was wandering around and looking at all the names on the lockers, and I could see that Hugh was beginning to look at me a little bit different. And they were nice guys. Receptive. I can only assume now, knowing how I felt later when a bunch of other copycats, would-be's, wanna-be's came in that they must've thought, “Well,” you know, “what do these guys think they got on the ball anyway?”

But they were nice and polite about it. A particularly warm reception from John [H.] Glenn [Jr.], who was kind of on the outs with the other guys by then. You've—I'm sure that the history has already been well documented. And—but he was very receptive and helpful to me. I told him I wanted to retain my Marine Corps Reserve affiliation. He was helpful. He knew the people at Marine Corps Headquarters. And Al Shepard was kind of a

cold guy, you know, at the time. He and I became very good friends later; but at the time, I could understand how they looked at him the way they did. And Deke [Donald K. Slayton] had just been placed in charge of the astronauts and been grounded; wasn't going to fly. Gordo [L. Gordon Cooper] was a very friendly guy. So, they—all in all, it was a much more receptive atmosphere than you might've expected. I think they looked at us as kind of a necessary evil. There were going to be a lot of flights. They thought there were going to be a lot more flights than there were—it turned out there were.

STONE: Yeah.

CUNNINGHAM: And so, it's—they have to share the wealth. I personally felt that I had a couple of strikes against me, showing up. They'd selected 14 astronauts, which had almost doubled the size of the group. (There were 16 there at the time.) And I remember coming down to the selections; and I wasn't so much impressed with the astronauts themselves at the time as I was with the guys that I was competing with. They'd started off with about 770 qualified applicants, and I was getting screened without actually having any contact with them and making the cut. And I'd get a call every so often saying, "You've made the next cut," you know. "Do you still want to do this?"

STONE: Still want to do it?

CUNNINGHAM: "Still want to do this thing?"

STONE: Yes.

CUNNINGHAM: And I'd always say, "Yeah." And this was a summer when I was spending a

lot of time—I was flying with the Reserves, and I must've flown 90 hours in 2 weeks there at one particular period of time. I never hardly had time except to take calls and say, "Well, sure," you know. "Why bother to ask me?" When I finally found out who I was competing with, there were 32 of us left. And we went down to the Air Force Medical Center over in San Antonio [Texas], and they were phasing us in there. So at any given time, you could—I guess I saw a sampling of about maybe 10 of the people I was competing with. Roomed with one of them. (A very fine guy.) And I remember stopping and thinking, "Hey, Walt, this is not going to be easy to get in here." I mean, I was tremendously impressed with the competition I had.

I—to this day, I think I had a little bit stronger academic skills, which helped a bit. I had, you know, great recommendations on flying. But some of these guys had been flying—half of them were test pilots. I had never gotten to Test Pilot School. They'd been flying later-model airplanes. I'd been in the Reserves. The Regulars all on active duty kind of looked down their nose at the Reserves. They could've looked down their nose at me because I was studying physics instead of being an engineer. That kind of thing. So, I remember feeling that I might be a long shot.

It was the first time I remember feeling I might be a long shot. At the same time my wife and my mother, who had mostly humored me, had not given any thought that I would—could possibly become an astronaut, all of a sudden they started getting worried that I would be! So, at the same time I was stopping to thinking, "Maybe I might not make it through this crowd," they were beginning to think, "Oh, Lord! Walt's going to be an astronaut." And it started bothering them.

STONE: How did you get the word that you've made it? I mean, did the Prize Patrol show up at your house? Or how does that work?

CUNNINGHAM: Well, when we—after the physicals, there were four people [who] were eliminated at the physicals. There were 28 of us left in the running. We didn't know how many they were going to select—yet. And a couple of weeks later, we showed up for final interviews (and this was in person, 3 or 4 days). And I got to see some of the people that I had not seen during the physical selection. They were even more impressive! And they all seemed to know these guys personally, you know.

I remember [Richard F.] Dick Gordon [Jr.], who I had met at the physicals and he'd come by my house for a drink. And Dick was a guy that had been setting a speed record in the Navy, and—a contemporary of mine, but he'd been on active duty and had a much better flying career. And we showed up down here, and here's Dick saying "Hello" to his old friends Shepard and [Walter M.] Schirra [Jr.] and he knew Deke and—I mean, he knew all these guys! And, you know, [James A.] Lovell [Jr.]. These are people that they'd been around. The other guys, some of them had been through the selection a couple of times; and they knew these guys, too. And so, I felt like, when the upshot—when it was all over and I was one of the 14, I thought I had been very fortunate to make it through the competition.

STONE: When you made it, was your wife thrilled about that? Your mother thrilled about this? Or are they apprehensive about you flying away to the Moon?

CUNNINGHAM: Well, to be very honest and selfish about it: I don't think it made any difference what they thought. I think that my wife was proud and pleased. My mother was probably frightened. I don't recall ever having a big discussion about it. And you asked how we were notified. The—we went back from here, not knowing how many they were going to select. But several of us had agreed to kind of keep in touch, and we were told that the—if you didn't make it, they'd notify you first. And so, I stayed in touch with a couple of the

guys; and every once in a while (every week or so), we'd check, "Have you heard anything?" "No." Then one day I got a call from one of the test pilot guys that I'd gotten to know down here and he says, "Well, I got a call from Deke, and they're not going to take me. Have you heard anything?" And I says, "No." So, of course, my hopes went up.

STONE: Yeah.

CUNNINGHAM: And eventually, I got the call from Deke. And he said, "Well, Walt, we'd like to have you if you still want to go to work for us." So, I was a—

STONE: There you are.

CUNNINGHAM: —that was a no-brainer.

STONE: Did you get the special boots and the special helmet and the Corvettes and all that other stuff that were the trappings of the astronauts?

CUNNINGHAM: Well, the boots and the helmets and the flight gear and the locker room and all that personal attention, yeah, I got all of that stuff. That was trappings. Astronauts were not issued Corvettes. But we did have a fine deal with General Motors and also eventually with Ford to get what they called "brass hat cars." And I had been driving sports cars all my life. Didn't have much else to my name, but I was—like I drove down here in a Porsche cabriolet and I'd owned three or four Porsches and couldn't resist the temptation to get a Corvette, because it was quite reasonable. And I must've owned the Corvette about 4 months before I gave up and went back to Porsches on it.

STONE: But you had to have that astronaut car.

CUNNINGHAM: Well, yes, I was aware that there was a certain image that—to project there. I didn't concentrate on it a lot. As a matter of fact, I've always been considered kind of a square guy when it comes to those kind of things. But it's not because I wasn't aware of them; it's just because it always kind of embarrassed me to act like it was your due. I've just always felt a whole lot more comfortable with people realizing that, "You, too, could do that if you just paid the price along the way." I mean—

STONE: But the fact of the matter is, when you became an astronaut (when anybody became an astronaut back then), you were elevated to a much higher plane as far as the general public is concerned.

CUNNINGHAM: Automatically.

STONE: Were you ready for that? Did you—was that surprising to you?

CUNNINGHAM: Yes, it was surprising to me. It didn't shock me. I mean, it was just something else to adjust to. But I remember, I had not even given any thought to it. I'll give you an example. When I was working at the RAND Corporation when I was notified, and it came out in the local paper. Headlines: "RAND Scientist Named Astronaut," in the Santa Monica *Evening Outlook*. And a couple of days later I get a call from an old girlfriend from high school. The last time I had heard from her was when I was supposed to take her out miniature golfing or something as a senior, and I get a call from her saying that she couldn't go with me because she was going to marry somebody. And that was in 1950 (probably).

And here it was now in '63, the next call I get from her, and she wants to come by and catch up with old times. And she'd married, moved away, and all of that! So, she came by and we visited, walked on the beach a little bit. And it was only because—I mean, I was now somehow or other a different person.

STONE: You told your wife about that, and both of you laughed about the fact that the world had changed.

CUNNINGHAM: Yes! Yes. Absolutely changed overnight. I began to get letters from kooks! I was considered a better scientist—

STONE: All of a sudden.

CUNNINGHAM: —all of a sudden.

STONE: Yeah.

CUNNINGHAM: At UCLA, I was able to—at a doctoral committee that all of a sudden—a Nobel prizewinner was willing to come on my committee. I mean, all of this happens because of what the people assume about you. And I remember at the time stopping and thinking, you see, "I'm no different than I was the day before," you know.

STONE: But you were.

CUNNINGHAM: "What is this?"

STONE: To the world, you were.

CUNNINGHAM: Right! I mean, I kind of resented the fact that people thought I was now worthwhile whereas, the day before, I might not have been.

STONE: So, you start astronaut training. Was there ever a time (and I may be jumping ahead here)—but was there ever a time when Deke Slayton sat with all of you in a room and said, “One of you guys—some of you guys are going to go to the Moon?” Did that happen?

CUNNINGHAM: Oh, yeah.

STONE: Did you have those kind of talks?

CUNNINGHAM: Well, actually, we had very little of those kind of talks, but we had some. And it wasn't “Some of you guys are going to go to the Moon;” it was “All of us that are here now are going to go to the Moon.” I mean, we all expected that. There were going to be more missions, for one. And they all—we always expected that some people were going to get killed, and everybody wouldn't be around. We didn't think that going to the Moon was going to be a safe process. It was going to be as safe as we could possibly make it. But we didn't think it was without risk. And there were times when Deke sat down and—he never told you very much, but he did let you know that, you know, you were going to fly. To him, the selection process was what got you there as an astronaut.

We really weren't technically considered an astronaut until you completed training; and as John Glenn always—not John Glenn. John [W.] Young always said, “You're not an astronaut till you fly in space.” It was always expected that we were going to do these

missions. Actually it turns out, the guys that were selected somewhat after us still flew a lot of those lunar missions. But there was a time after the fire, when Deke sat down with about a dozen of us and said that, “Look, you guys right here, you’re the ones that are going to—we’re going to fly you guys. You’re going to make the first lunar landing,” you know. “We don’t know what all’s going to happen after that, but—” Yeah. I felt like I was fortunate to be part of that little group, but I could already see from my position in the lineup I wasn’t going to be—very unlikely I was ever going to be on that first lunar landing. Because, where we were flying the first mission that you have to go backup (I didn’t know that Deke had other plans for me at the time—even then). But then you go backup, then you go prime crew. But just to be part of the group was a nice feeling.

STONE: Your original assignment was Apollo 2, am I right?

CUNNINGHAM: My original flight assignment (flight crew assignment) was as Apollo 2, yes.

STONE: All right. And then what happened? How did you get to be the backup to 1, I guess that’s my question?

CUNNINGHAM: Well, Apollo 1 was going to be Gus Grissom’s flight. And it was Gus Grissom, Ed [Edward H.] White [II], and Roger [B.] Chaffee. Apollo 2 was a flight that was—Wally was the commander (I later concluded that he was kind of a stand-in commander there) and Donn [F.] Eisele and myself. And it was at that period of time we were trying to wind up the Gemini Program. Some of our guys were still tied up as prime and backup in the Gemini Program. Others were available to begin working early on Apollo—which we were doing. The spacecraft—it was the first one being made by [North American] Rockwell [Corp.]. And compared to what we’d been used to seeing at McDonnell

[Aircraft Corp.], which eventually became McDonnell Douglas [Corp.](but McDonnell in St. Louis), it just was not all that good.

They did not have the same attitude they had at McDonnell. New engineers, they hadn't, you know—they had an NIH ["not invented here"] syndrome. If it wasn't invented there, it wasn't any good. They eventually did a lot of cross-pollination, and partly because Wally was insistent that they hire some of the people from McDonnell. It all got straightened out in the end, but at the beginning they were really off base. They were way behind schedule. They didn't have a receptive attitude to having the flight crew out there involved in the testing, the design reviews, sometimes even in the design. And it was—it just was not a healthy atmosphere to get a new program off the ground. So, Apollo 1 was the first spacecraft. Apollo 2 was the second spacecraft.

Gus and Wally—neither one of whom had any interest at all in any scientific activities (and the scientists were busy trying to put experiments on these)—Gus was able to prevail on Apollo 1 that, "This is an engineering test flight and we're not going to have any science on it." So, anything they had on that, they got "Throw it off!" and they would stick it on Apollo 2. Wally was no more receptive, but he had—didn't have the same kind of leverage at that time. Plus it developed that Wally really was ready to leave the space program.

He'd flown Mercury and Gemini. He wanted to go off and become a millionaire and was—had planned on leaving. Deke Slayton, who had been grounded with his heart problem, continued to want to fly; and later, I came to realize (it's hard to say "know" because it would still be controversial and some people would argue the other way around), but this was supposed to be Deke's flight because it was not a critical flight. Apollo 1 was important. Apollo 2 was almost a redo of the same thing, plus it had the science on it. And if Apollo 2 didn't work, it wouldn't be too bad to have a guy who had a heart problem on Apollo 2—whereas it would've been on Apollo 1. Plus we had come to realize that we were

going to have to do a lot of redesigning of the Apollo spacecraft. And Apollo 2 was going to be the last one that was configured in the old way.

So, Deke wanted to have that flight. Eventually the powers that be wouldn't approve Deke to do it. And he had prevailed in the meantime on Wally to stand in for him. "You be there, Wally. I know you don't want this flight, but you go ahead and fill the spot." And he kind of—his attitude was that way, too. Wally wasn't serious about training or anything, and Donn and I, being rookies, you know, we ate up everything. We just—we wanted everything to be absolutely correct. Well, eventually they said "No" to Deke. Wally was stuck with this flight. And it was the dead-end mission, kind of, because it was the last one of this kind of a spacecraft. So, eventually NASA came to realize there's not much reason to fly this and they cancelled Apollo 2. They cancelled Apollo 2, part of it was to save money and to put the resources on to the Block 2 spacecraft. So, I believe that Wally probably had an inkling of this. We had no inkling they were going to cancel it. It—to us, it was the most important flight in the world.

STONE: Sure.

CUNNINGHAM: First time to get into space. Eventually, we were notified about it by being given a copy of a press release to—they said, "This is going to go out this afternoon. What do you think about it?" And we were sitting over in Mission Control for some reason (some kind of a briefing), and Paul [P.] Haney turned around and handed it to Wally. Wally looked at it, then he—we all went out in the hallway to discuss it. We really felt kind of put down. I think we went out and had a few drinks (maybe got drunk that night). They canceled it. Wally didn't seem all that sad about canceling it. What bothered him even worse though was, out of the reorganization—since our crew had spent the most time (except for Gus's crew) on this spacecraft, you know—they put us in as backup, which was not too bad a spot.

Because we kept looking at this rotation thing every three flights. If we're backup on here, you'd be prime—

STONE: Prime for 3, as it were, in this case.

CUNNINGHAM: Yeah, 3 or 4.

STONE: Or 4 or—

CUNNINGHAM: Looked good.

STONE: Yeah.

CUNNINGHAM: Wally just didn't feel right backing up Gus, I mean, because Gus and he were—you know, there was a pecking order. There were the Mercury astronauts, the Gemini astronauts, and the Apollo astronauts. There were a lot of other ways that this pecking order was broken down as well, but that one was important. And he just didn't feel like he should back up Gus. Gus made a personal appeal to Wally; they were very good friends (neighbors, in fact) and Wally agreed to go in and go backup. So, we were backup on—for Gus from November, December, January, until they had the fire and were killed. And that's how we ended up backing up Apollo 1.

STONE: The night of the fire, you had been at the Cape and flew back to Houston, not knowing there was any problem at all.

CUNNINGHAM: We knew that there were a lot of problems on the test. We'd run the test the

night before—without closing the hatch. With any new vehicle and particularly with a new spacecraft, lots of birthing pains on getting the systems to work. Not just the spacecraft, but getting the means to check out the spacecraft. So, we were waiting. It was a Friday night, and we were all going to come back home for the weekend because we'd been spending a whole lot of time—they actually thought (NASA did) that it was within a month of launch. We never actually believed that at all. There were just too many things wrong. But we were going through the fiction of having a scheduled late February launching for Apollo 1.

STONE: Did some of you tell NASA, “This is a piece of junk?”

VOICE OFF CAMERA: We're going to stop now.

CUNNINGHAM: You remember where we were, to the point.

STONE: Yes.

VOICE OFF CAMERA: And speed.

STONE: This is reel 2 of the Walter Cunningham interview. I had—we're talking about Apollo—the Apollo spacecraft. Apollo 1. I read somewhere that some of you characterized that as “a piece of junk.” Is that correct?

CUNNINGHAM: We tried, in design reviews and in many ways—we tried to make it plain to management in—very explicitly. It wasn't just the spacecraft itself that had a lot of problems, because they were—they wanted to maintain the schedule and they were pushing it through. We found decisions going against us at a technical design review that would go

against us for non-technical reasons. It was not—we weren't used to that (and eventually, it went back to the way it ought to be). But at the time, everybody was being abused by the schedule. President Kennedy had said, "We'll land a man on the Moon and return him safely to Earth in this decade." And here it was, it was 1960—at the time, 1967. Time was getting short and schedule was considered God. So, anything that would slow things down, it was really tough to get through. They didn't ignore it, but it just didn't have the same weight as it did before. The managers had "go" fever.

We knew that it was bad, but we wanted to fly. We also had such big egos that we felt that we could fly the crates they shipped these things in. We honestly felt that, with things that were wrong, we always had a mental workaround on them. Believe me, we never launched with our fingers crossed thinking that "I hope this works." We always felt that "This is just about impeccable, just about perfect. And the areas that it's not, I know about. And those areas, I'm good enough to work around it." Foolish, but that's the way we believed. And I think it's probably essential that they do believe that.

So, we had told them, they didn't pay that much attention to it. And besides, astronauts had begun to get a reputation as being prima donnas, had insisted on too many things in the past on the basis of personal prerogative that happened in the spacecraft that proved to be not necessary. I mean, you can only cry "Wolf!" so many times, even though in this case it's better to err on the other side; you know, to be on the safe side on doing it. So, we also had guys like some of the Mercury astronauts who were not as technically well versed as those of us that came immediately behind them. The Gemini group and Apollo had better technical backgrounds; and you could—you'd have somebody like maybe a Wally Schirra insisting on some point, not pushing it on the basis of his technical explanation why it was necessary but on the basis of personality.

STONE: I want it.

CUNNINGHAM: I'm the commander.

STONE: Therefore, I deserve it.

CUNNINGHAM: Right.

STONE: Yeah.

CUNNINGHAM: And that didn't go too well. The guys that were really good, you know, the Jim [James A.] McDivitts (well, I was going to say Frank Borman, but he was a lot like Wally also)—but there were guys that really understood technically what was going on. We had some really fine engineers. I pride myself in my contribution to the space program was really what I did in terms of working with the systems of the spacecraft, that and on Skylab. Because a lot of people I know could've done the flying I did, but not very people (I don't believe) could've done the same kind of insightful thinking I did.

STONE: The fire kills the three Apollo astronauts. You learn about that when you come back to Houston. You pay your respects to the family, and the next day you look at a most uncertain future. Not only for yourself, but for the entire program.

CUNNINGHAM: We were—I'll put it this way. We were hopeful that it would not cause people to cancel the program. It was the first real disaster we had, having to do with a spacecraft. We'd had astronauts killed, but this one had to do with a spacecraft. It didn't make good sense to wrap the whole program up. And yet we felt a certain threat about it. Or, at the very least, we felt it was going to be a long hiatus here without us being able to fly.

So—and in particular, we didn't know what was going to happen to our crew. By now Donn and I were aware that Wally was not all that enthusiastic about flying. If you can imagine it, he was like 41 or 42 at the time, and that was awful old for an astronaut in those days.

STONE: Yes, yes.

CUNNINGHAM: So, we thought that, “Gee, Wally's already old and tired out.” So, we weren't sure what was going to happen to us. We hoped that custom would kind of be followed, and we would get the mission. But we didn't know when it was going to fly. And we also just weren't sure if we were going to make it to the Moon now before the end of the decade, which as we look back on it was nice as a target but totally irrelevant to the accomplishment. I mean, it wouldn't have made any difference if we'd made it later.

STONE: But as a matter of fact, the fire in a perverse way made it possible to make that landing when you made it.

CUNNINGHAM: I believe it. I believe that. Because we took the 21 months it took to fix things then and we fixed not only the things that could've caused the fire, because we didn't know what that actually was—

STONE: Sure.

CUNNINGHAM: —but we fixed a lot of operational things that had been just rejected out of hand. But now they had the time and the money, and all of a sudden the public and Congress was concerned, real concerned about astronaut safety again. So, we fixed a lot of things and were able to fly a much better spacecraft. The one that we actually flew—you've

heard me describe Apollo 1 spacecraft as “a piece of junk;” and it really was as spacecraft go. The one that we flew was almost perfect! I mean, it was just—you couldn’t have asked for a better piece of hardware for the first time. So, that happened, and it enabled us to build one success on another and to make it with 6 months to spare. And most of us believe that if there had not been that Apollo 1 fire, we would’ve lost some people in orbit and maybe—who knows what would’ve happened?

STONE: You were on an Emergency Provisions Review Panel. What was that? Tell me about that.

CUNNINGHAM: Well, after the fire, there was a very high-level Accident Review Board that was formed, and our lead guy on it was Frank Borman. (In fact, he was heading up the Accident Review Board.) Being older and wiser about politics now, I understand a bit more about why they had to have an astronaut sitting there; and Frank was a good guy to do it. He was—he’s a guy that would’ve had positions like that had he never been an astronaut. As I said, he really was good. And several others of us worked on various panels on it. I was on the Emergency Provisions Panel.

As I look back now, it—it seems so much more obvious as to why some of us were put in certain positions. But at the time, I just felt like all I was doing was flying. I was just concentrating on flying. But the reason that they couldn’t get out—or I’m not sure they could’ve gotten out under any circumstances—but the hatch was blocking them. There were very few circumstances of an emergency inside of that spacecraft that they could possibly have gotten out of it. So, it was very important to take a look at the whole process of getting in and out of the spacecraft, and that was the Emergency Provisions Panel. So, I went to work with a number of other people, and that was kind of my contribution to the Accident Review Board.

Plus immediately following the fire, the big question was—You always try to find out the transmissions; we didn't have black boxes in those days. We did have an onboard tape that was probably running. It was probably burnt up. But, where they had the air-to-ground, which was from the spacecraft to the blockhouse, and in the 21 seconds from the time you first heard the noise to the time it was over, no one was exactly sure what they said.

So, I remember the very next day (I think it was the next day) I was down at the Cape. We flew back either—this was Friday; we flew back either on Saturday or Sunday. I flew back once, I think, to take Gus's uniform down there for the burial. And then I flew back and we stayed there—Donn and I stayed there—and we sat down with the tapes. We had to—I think Frank Borman and Donn Eisele and I, because we knew the guys, we knew their voices, we sat down and went through this. And even then, we couldn't agree exactly on what went on. And they wanted to get it down to timing. So, I ended up taking those tapes up to Bell Labs up in New Jersey, where they broke it down, did all the magic things they do with it. You know, today it would've been easy with digitizing, but it was tough in those days and they still had some controversy afterwards. But we're pretty well convinced that what they had said to say and what the problem was.

STONE: I can't imagine how difficult it would be to sit and listen to those tapes over and over—

CUNNINGHAM: Yeah, it was—

STONE: —of your friends dying.

CUNNINGHAM: Yeah, it's—it makes the hair stand up on the back of my neck as I think about it now because, you know, it's—you know, it's screaming, "Get us out of here!" You

know, “We’ve got a fire!” You know, “We’re burning up! We’re burning up!” And aviators, that’s—aviators mostly anticipate that they’re going to go either in a big crash, where there’s nothing, or that they crash in a fire and they burn. So, fire is really one of the kind of horrors in an aviator’s life. He doesn’t mind going fast, but he really doesn’t want to suffer. So—

STONE: What did that do to you psychologically then the next time you got into, even though it was a rebuilt, Apollo?

CUNNINGHAM: I hesitate to give my answer because most people think it sounds stupid and don’t believe me. It didn’t affect me at all. I’ve lost many people in flying, including my brother; and you develop a different attitude towards death. My wife today thinks that I’m odd, but I remember my thoughts and concerns were for them and hoped they hadn’t suffered too long or too hard. And then it’s behind me. And, I mean, I’m going—I don’t recall ever having one thought about myself back in that same spacecraft and having any horror or anything. Now maybe that is odd.

STONE: Well, why do you suppose Wally Schirra stayed to fly Apollo 7?

CUNNINGHAM: Well, Apollo 7 became very important. It was—if we had not had a success on Apollo 7, we really don’t know what would’ve happened to the space program. Another accident and the fainthearted in the country, as we have a tendency to be, would’ve been clamoring to stop it, you know. People don’t realize there are a lot of things worse than dying, and there are a lot of things worth dying for in this life. And certainly we believed that that was one of them. It—we never even had any hesitation about that. So, when Gus’s crew died and we cannibalized Apollo 2 to try to reconstruct what happened for the Apollo 1

fire (that's one good use it came to), all of a sudden the next flight, which we had inherited a couple of weeks later, Deke took us aside—we were down at the Cape cleaning out our lockers, and he took us aside and told us that we'd got the next mission.

And that's a mixed feeling about it. Because you know you got it at the cost of your friends' lives, but you're also thrilled and exhilarated that the confidence has been placed in you and you get a chance to go show your stuff and do your thing. So, it's kind of a mixed thing. But we—I think we went out and had a couple of drinks that night, too. We were proud to be assigned the mission, and Wally's attitude was entirely different. It was important. It was to save the space program. It became known as "Wally's mission." I mean, Donn and I hardly even existed in the eyes of the media. And Wally warmed to the task. There was still a lot of work. Wally was not the world's greatest nose-to-the-grindstone guy, but he began to realize that this was important and he wanted it to be successful.

STONE: So, I want to know how it feels when you're sitting on the thing and it's just rising up and you're going up on it for the very first time in your life. Now you're not going to tell me you didn't think about that. You're going to tell me you're blasé about that, are you? You are.

CUNNINGHAM: It's—

STONE: Okay.

CUNNINGHAM: —it is hard to talk about some aspects of being an astronaut and spaceflight to anyone except somebody who has experienced it. I know there are a variety of reactions and particularly in more recent years, when there's been such a variety of backgrounds of

people who were not just guided like a missile to do this, which we felt like we were in those days. I mean, it was just an ever-narrowing channel that took us to that; and if we could stay in that channel, that was it. That was enough. But, I had thought about most of the sensations of doing this. My greatest concern, when we were finally in the final countdown, was that something would happen and they'd stop the count. I mean, we really didn't want that. We did have a tank pressure that had to be brought up, and they had to stop the count. We didn't want to stop the count. They wouldn't let us call the shot, so they stopped the count and increased the pressures in the tank. And that made us 2 minutes and 56 seconds late and that bugged us. I mean, we really—we felt it was an unnecessary delay. But they were busy being safe.

In fact, one of the problems we had after the fire was an over-emphasis, in many respects, on safety. There is only so much safety. Today it's quite popular to say something like, "Well, it doesn't make any difference how many effort you have to put in as long as it saves one person's life." Well, I've never believed that. You know, there is a cost benefit you go through; and one person's life may be worth this much but not this much. So, we felt like they were bending over backwards to do everything super-safe. (They didn't want to be criticized later if something happened.) And here we were, we were the ones that would've been the consumable, if you will, and we weren't that concerned. We did not want to saddle ourselves with unnecessary safety features that would bog down the mission and make it tougher and tougher. So, when it came down to the end, they were being safe (pretty much) and we really wanted to go. We really had "go" fever at the end, too.

STONE: And you take off, and you still haven't told me what it feels like when you take off.

CUNNINGHAM: Well, it's a—on the Saturn rockets, it's a ride that builds up to, oh, 5½, 6 g's, something like that, which is not too tough considering that you're lying down. But a lot

of people forget that you're starting off at zero. So, it's not a sudden acceleration. It's not like a cat [catapult] shot on a aircraft carrier. I mean that is [snaps fingers] like that! And you see spots in front of your eyes. With this, you're starting out at zero velocity and it's just a slow building. It's like a train behind you that is just building up. It builds up rather rapidly, and you know after a little bit of time, you—with all the vibration, you know that there's something powerful under you, which they like to compare to a nuclear bomb going off (if it went off fast enough). But you [are] just moving ever so slowly, and it seems like it takes forever to clear the tower; and you hear, "Tower clear." So, it—building up real slow, you're taking voice checks in turn. And I guess I was number 3 to make a voice check; so it was probably the third minute that I would check in and say, "Things are going okay."

STONE: You're the lunar module pilot. Where are you sitting? Can you see out a window somewhere at this point?

CUNNINGHAM: Well, we—Wally is sitting in the left seat. I'm in the right seat. The navigator (that's Donn), he's in between. We have a boost protective cover over the command module. There's a escape rocket that you can use anytime until you get rid of it, and that's at about 1 minute—a little after a minute into the flight. Because that rocket puts out a plume, you had to have a cover over the command module so that you wouldn't coat the windows and you wouldn't be able to see anything out of the windows in the event you were coming down on a parachute during an abort. So, the only place you can see out is over Donn's head in the center seat. There's a little round window, about 6 in. across, and he could see out and he was the only one that could see out.

We had no windows until the boost protective cover goes. By that time, the spacecraft (the whole rocket) has rotated and you're pitching. And when you pitch over, you go in basically on your back in the command module. Even today, you know, the Space

Shuttle goes in upside down on your back. So, you've got things to monitor. If everything's going okay, it's just a monitoring job and making voice checks going up. Throwing a couple of switches at a couple of key times. But it's kind of boring. You can enjoy the sensation, and it really is bouncing around a lot! But the most important thing is you know that there's nothing they can do to keep you from getting your flight. I mean, the bolts are blown. The rocket engines are lit.

STONE: You're gone.

CUNNINGHAM: And you're gone. And I can recall during that boost thinking, "Well, we're not going to have to worry about the telephone. All these people that in the last 30 days, everybody wanted to call and mention their last little bit of concern here [or] there. They're not going to get a hold of you. We're mostly in control of the communications. It's going to be a relief." I mean, we really felt like—that we had trained hard. Now we were getting the reward for it.

STONE: Was that hard training, was that emphasis on a very conservative approach to safety, was that absolute fear that if this one goes wrong we're not going to go to the Moon? Was all of that contributory to what happened on the mission with regard to you guys having a little bit of trouble with folks on the ground?

CUNNINGHAM: Later Wally would say that that was. There was some real bickering back and forth between Wally and the ground. I, frankly, have never felt like I had any kind of a problem with the ground, with going over the onboard tapes and air-to-ground and what have you. Donn, a little bit. But Wally was still demonstrating that it was Wally's flight and Wally was in charge. He has maintained since, that he felt the responsibility. He's never

said that what he did was anything except the responsible thing to do, but he's maintained he carried that responsibility because [he] didn't want to have anything else happen. I really think it's a case of, on some instances, Wally wanting to insist he was in charge when nobody cared who was in charge anyway. So, I don't think—I really don't think that the pressure of another safe flight was really significant. There were other factors that I thought were much more critical between Wally and the ground.

STONE: He had a cold.

CUNNINGHAM: Yes.

STONE: And a bad cold, apparently.

CUNNINGHAM: Yes.

STONE: And in that kind of an environment, a bad cold is a really bad cold!

CUNNINGHAM: Well, the cold—4 days before the launch, we went dove hunting. This was October, and it was kind of an early—dove were pretty good down there in Florida, and so we had some cold weather come in. So, we went dove hunting. It rained. And I think what's happened is that's where the cold came from. Wally was one of those that was like kind of a General Bull Moose complex. What's good enough for the world—what's good enough for Bull Moose is good enough for the world. So, when Wally had a cold, everybody had to be miserable.

STONE: Everybody had to be miserable.

CUNNINGHAM: Yeah. Everybody had to be miserable. And there is no question that that can make a little bit of misery. But we all worked through that. I think the real problem was: it was the first mission. We had planned it for 11 days, but you don't know how long it's going to last because something may happen and you have to come back. And even the planners and the engineers load most of the tasks at the beginning in case they have to come back early. I mean, so there's always this awareness you may come back early. Now if you come back early and you've got a bad cold, it's like coming down in an airplane (only much worse, because you're coming down much faster). You might break your eardrums. So, I think that that was an honest worry that Wally had. "In case we come back early, you know, I'm in bad shape," and I think that caused him to be irritable.

STONE: All of you complained about the ground giving you more to do than you felt like you could do.

CUNNINGHAM: Not my take at all.

STONE: Okay.

CUNNINGHAM: No. As a matter of fact, at the end, it was—[the] mission was described as 101% successful, and that's because they had added a couple of detailed test objectives and things on after we were up there. So, we actually accomplished more than 100% of the objectives.

STONE: Yeah.

CUNNINGHAM: But I always thought (and I think Donn agreed with me) that the initial plan was no more than about 60 to 75% of what we should've had on it because many things got thrown off of the flight, principally through Wally's efforts to not put this on there. So, we felt like we could've had—accomplished a whole lot more, I mean, if you were planning for the 11-day flight. It turns out that the last several days were fairly boring. We were—

STONE: Yeah.

CUNNINGHAM: —out of film. We were out of—we'd accomplished all these things. We could've done a lot of other activities. So, we felt like, no, we didn't have too much to do. So, there was some complaining about it, but it had to do—it didn't have to do with the workload that was being put on it. It was the fact that it was new, injecting itself into, in this case, the commander's thoughts (that's Wally); and he had not been as well prepared as the rest of us had for all the objectives that were on there.

STONE: The first television show was canceled. And it was canceled because none of you felt like you were really ready to do that. Am I right about that? Or that wasn't just him. That was all of you feeling like, "We're not ready for this."

CUNNINGHAM: Well, you have to put yourself in the position. We were rookies and it was (quote) "Wally's flight." So, it's hard to say where we agreed and where we acquiesced.

STONE: Okay.

CUNNINGHAM: Number one.

STONE: All right.

CUNNINGHAM: Secondly, even if we didn't agree, we felt like our job was to do what needed to be done. If that was what they wanted to do, we would've tried to do it. Now, that's the positive side. The negative side is: it was really moved up [and] scheduled 24 hours earlier than originally planned. We were brand new in the spacecraft. Brand new spacecraft. Two guys getting used to it. We had no problem, but we didn't know that. Wally was already starting to feel the effects of his cold and Wally was obviously into the "Who is in charge?" mode. We would've had to hurry things around to do it, because you can only make the television on certain passes over certain sites.

STONE: Yeah. Right.

CUNNINGHAM: So, there was no question that it would've been a problem to do it early. But, it probably could've been done.

STONE: When it was done, it became a tremendous hit. Did you realize at that time?

CUNNINGHAM: We didn't know it was a hit.

STONE: Well, it won an award!

CUNNINGHAM: Well, yeah.

STONE: It won an Emmy!

CUNNINGHAM: I've got an Emmy.

STONE: You're an Emmy—

CUNNINGHAM: I've got an Emmy.

STONE: —you're an Emmy winner.

CUNNINGHAM: Yes.

STONE: Did you realize at the time that all these people were hanging on to every word of the—what did we call it then?

CUNNINGHAM: The Wally, Walt—

STONE: The Wally, Walt, and Donn Show? Yeah.

CUNNINGHAM: No, we didn't know that. But we didn't know also that they were—that our air-to-ground, for the first time—

STONE: Every word.

CUNNINGHAM: —was going live—

STONE: Every word.

CUNNINGHAM: —was going live to the media over there.

STONE: Yeah. And that's where you got in trouble, huh?

CUNNINGHAM: Oh yeah. Oh, and the tapes. We never thought about the onboard tapes. There's two communications systems. You've got the air-to-ground, which had never been live before (it always had some kind of a delay, or they would decide whether to run it out of Mission Control). And then the onboard tapes, when you weren't over a site—in those days, we were only over a site like, maybe, 6% of the time. Now it's almost 100%.

STONE: Yeah, yeah.

CUNNINGHAM: And so, in between, you'd put stuff on the tape all the time. You'd be talking back and forth and it's recording it. Then you'd get over a site, they'd dump the tape, and some little girls would be down there typing it. And about the second or third day, they'd finally gotten to the tapes for the first day and they said, "Hey, can you guys clean up your language?" And all of a sudden we—and that's the first time it dawned on us. Somebody's down there taping all this stuff, typing it all up, and we just hadn't been careful at all of what we'd been saying!

STONE: I'm going to read you something from your book *The All-American Boys*. Okay? "Finally Wally laid down Schirra's Law. 'I've had it up to here today, and from now on I'm going to be the onboard flight director for the flight plan updates. We're not going to accept any new games or do any crazy test that we never heard of before.' We later learned at the next Press briefing, the newsmen stood up and said to Glynn [S.] Lunday—Lunney," rather,

“the prime flight director of Apollo 7, ‘I’ve covered 16 flights and I don’t recall ever finding a bunch of people up there growling the way these guys are. Now they’re either doing a bad job or they’re a bunch of malcontents. Which is it?’ And his answer was, ‘I’d be a little hard pressed to answer that one.’”

CUNNINGHAM: Yeah. Glynn Lunney did a wonderful job under some difficult circumstances.

STONE: Which was it? Malcontents? Or guys doing a bad job? Or was it either of them?

CUNNINGHAM: Well, I’ve always objected to being lumped in that, and I’ve been consistent about that. I think that it was the prima donna in Wally coming out. I think it was that he did feel pressure with the responsibility. I think he felt like he was getting old for the business, you know, he always said that this business will—is—it kills you slowly. I mean, it just takes everything out of you. I also think that Wally was not as well prepared for the flight as a lot of other people have since been. So, it—things were new to him. He was discovering things for the first time on the mission.

STONE: You did not know it at the time, but [Manned Spacecraft Center Director] Robert [R.] Gilruth (I believe it was Gilruth) said, “These guys will never fly again.”

CUNNINGHAM: No, I don’t believe that. That was supposedly Chris [Christopher C.] Kraft.

STONE: Chris Kraft. I’m sorry.

CUNNINGHAM: Yes.

STONE: Forgive me.

CUNNINGHAM: Yes.

STONE: Chris Kraft said, “These guys’ll never fly again.” You—how—when did you find out about that?

CUNNINGHAM: I—

STONE: How long were you back before you found out about that?

CUNNINGHAM: Well, if you—I’d have to say I never have officially found out about it. And to this day, it’s a point of “do you believe” between Chris and I because I had been destined to go over to Skylab when I came back; and I expected to command the first Skylab mission at the time because I was the senior guy with flight experience that was on it. (Subsequently others came on, but at the time it looked pretty good.) And later I can’t remember who, but I had heard somehow or other, through the grapevine, that Chris had said something like this. So, I went over to see Chris and I faced up to him. I says, “Is this true?” He says, “I never said anything like that.” I don’t remember exactly the conversation because I don’t think it was a very pleasant thing for me to do. I kind of nerved myself up and went over, because I didn’t want to hear that it was.

STONE: Yeah.

CUNNINGHAM: But Chris denied saying that. Now to this day—now, Chris says otherwise.

He says that he told me that, okay? Now, you know, people can pick and choose as to what the thing is. But that's what I had heard. And that's what I, in fact, believe. I believe that happened regardless of the fact that Chris has never told me. In fact, nobody has ever confirmed it to me on (what you would say) officially. Okay?

STONE: This must've been a very low point in your life, to realize that maybe it was true.

CUNNINGHAM: Yes. Especially since I felt like I had done an outstanding job, and my peers in the office confirmed that to me. I mean, there were guys in the office that came up and says, "I felt so sorry for you, Walt. So sorry." That's always true. They knew what we were going through up there. They thought it was tough on the ground. They should've been up there in place of this!

STONE: So, you were painted with a—with a broad brush—

CUNNINGHAM: Yes.

STONE: —and your career flying basically (possibly) is over. But you're not sure it is.

CUNNINGHAM: Yeah, I'm not sure it is. And I'm not sure that it was. I'm not sure—I'm sure that—I'm convinced at this stage that's what Chris thought and that's what Chris said. But I'm not sure that if I had wanted to stay and persevere that it would've been the end result. Who knows?

STONE: What's the Apollo Applications Program?

CUNNINGHAM: That was what came to be known as Skylab. It was our first space station that—it was bigger than *Mir* has been up there, actually, the volume that it had in it, to operate on.

STONE: You knew you were going to that when your flight was over. Is that right?

CUNNINGHAM: Well, no. Deke didn't tell me until after I came back.

STONE: Oh, okay.

CUNNINGHAM: Because it was considered—and we all wanted to stay on Apollo and rotate in Apollo. Wally was leaving. That's another reason that we didn't bring up. Wally leaving. He had nothing to lose. He could let it all hang out, and he did!

STONE: Yeah.

CUNNINGHAM: Donn had—knew that he was going to go back up on Apollo 10. And I didn't know what I was going to do. But because of my background with science and the flight experience (they'd never had a flight-experienced guy working on the workshop), so Deke told me right after I came back that that was what it was. But I know that he had that plan in mind for some time, but he didn't want to discourage me before I flew.

STONE: Yeah.

CUNNINGHAM: So, I went over there and it was a good time for me in the Astronaut Office.

It was the—there are not too many places where you can be in charge of something. And I had about 40% of the Astronaut Office working for me at one time. Had some really good guys. Guys that proved to have some really good careers later, and one of them ended up being the Administrator of NASA and, you know, directors of the several space centers around the country. And it was my real contribution down there. Flying in space; I know a lot of guys that could've done that and would've loved to have done it. But I feel like my real contribution is when we took a program that was kind of ill-conceived at the beginning with a—using a used S-IVB tank and a whole bunch of other crazy kind of things going on it, and getting it on track so that it eventually worked. And worked very well.

STONE: You write glowingly about Wernher von Braun and your meetings with him and your discussions with him. Talk about that.

CUNNINGHAM: Wernher von Braun was one of the—I've met a lot of people in important positions, and he was one that I never had any reluctance to give him whatever kind of credit they deserve. He owned his spot, he knew what he was doing, and he was very impressive when you met with him. He understood the problems. He could come back and straighten things out. He moved with sureness whenever he came up with a decision. Of all the people, as I think back on it now, all of the top management that I met at NASA, many of them are very, very good. But Wernher, relative to the position he had and what he had to do, I think was the best of the bunch.

STONE: You collaborated on some key decisions with regard to what was going to happen in Skylab.

CUNNINGHAM: Yes, yes. I—because the Marshall Space Flight Center, over in [Huntsville]

Alabama, was in charge of a lot of the hardware. And so, we'd go over there regularly; and he always wanted to know if I'd go over there. And I'd spend a day on some review or something. He always wanted to kind of get his own briefing. He was in tune, wanted to know what the astronauts thought about these things. He defended his engineers, but he did not want to see them ignore astronaut flight crew inputs.

STONE: What did Houston think about von Braun and you together in this alliance? Did they see it as an unholy alliance or not?

CUNNINGHAM: Well, I think they were concerned at times. We—the orbiting workshop had its own management structure at Johnson Space Center, and there's always been kind of a power struggle that goes on between these Centers—and particularly between Johnson Space Center [Houston, Texas] and Marshall Space Center. So, it got to the point where the Johnson management on the workshop, which I did not think was as capable as the Marshall management working on the workshop, they began to get very resentful when you work a problem with Marshall; they wanted everything to go through Johnson because the project—the program management at Johnson Space Center weren't necessarily as sympathetic to the Astronaut Office. There has been an interesting point that's gone on for years. I can only comment on what I saw during the 8 years that I was there, and maybe a few years afterwards, when I was fairly close to it. It's a—still an ongoing balance that is not—sometimes healthy, sometimes not healthy.

In the beginning, the astronauts had all the leverage in the world. You had this management structure, and way down the level on the management structure was astronauts. But their authority greatly exceeded the position that they had in management. They were the end user. There was never an engineer that didn't want to know what the astronaut thought about his piece of equipment. We could always get things done far beyond our

official authority, and that was used and misused early on. We had some examples of it in the Apollo Program, I know. The people that ran the Center, most of them over those years, came out of the Flight Operations Directorate not the Flight *Crew* Operations Directorate. We were all jet jockeys. We thought a lot about flying. The people over there that—controlling the missions, they had time to think a lot more about career paths and running the Center eventually, as they did. Chris Kraft came out of Flight Operations. They had some good people there. They really were good in Flight Operations. But they also—

VOICE OFF CAMERA: And speed.

STONE: This is Walter Cunningham, Tape 3. We're talking about the broad picture about how that whole thing is being managed, and you were in the midst of that.

CUNNINGHAM: Well, the astronauts, if anything, had too much leverage early on because they were the world's greatest heroes and you couldn't keep them on the farm. I mean, there was no way to keep them rounded up. (How would you like to be in charge of the original seven astronauts? I mean, almost impossible.) And a lot of good things happened because it—they were listening to the pilot input. It's the way any new aircraft is developed today; the end user should have a lot to say about it. But along the way, they also used that leverage and made some points that probably weren't so good. It created a lot of resentment. We—we created resentment over in the Flight Operations Directorate, which had the flight controllers. Sharp people, but they weren't necessarily all—they weren't all pilots. They weren't flying the spacecraft. It's like the difference between the American Airlines captain and the guy in the control tower. The guy in the control tower tells him what to do, but the captain has the prerogative of doing it or not doing it. He's responsible for that. And some people wear it different than others.

From that there came a reaction. And management, particularly in the timeframe of Chris Kraft, made a concerted effort to reduce the influence of the flight crew on all of these decisions. I was told one time that Chris said something about, he wanted to be able to have “one Mark IV, Mod 3 astronaut” that he could pull off the shelf and plug it in. And we resisted being just a number that you plugged in—at least in those days, we did. So, there became a reaction in which the influence of the flight crew was way down. Many of us think that that was part of the contributory errors that went on building up to the *Challenger* accident. Because new astronauts came in. They had—didn’t have this history. They were willing to accept anything to get a flight almost. And they didn’t know how the world was at one time. So, they’ve now—

Since the *Challenger* accident, they began to put flight crew back in some more responsible positions. They’ve been directors of some of these Centers, as I mentioned, you know, Richard [H.] Truly was the [NASA] Administrator. Some of these guys did better jobs than others. Right now the director of the Johnson Space Center has several astronauts on his staff. I’m not sure, though, how much the Office of—the Astronaut Office has the leverage it used to, because it’s an operational program. They aren’t developing so many things. Many of us think that the Space Station may suffer because the flight crew has not had the kind of leverage that existed back the last time we developed new programs. You know, Apollo, Gemini, and Mercury; these guys lived with it. So, this is something that’s been going on historically at the Johnson Space Center, and is still being wrestled around. I have my opinions about what’s going on today, but I can’t speak with authority on it.

STONE: I must say that in reading your book, Walter, I got the impression that, “Here’s a guy who learned how to play politics too late.”

CUNNINGHAM: I never learned.

STONE: But didn't—were you shocked to find out how much a role politics played in being an astronaut?

CUNNINGHAM: I was. I find that, even today, 30 years later, I still find myself resisting accepting the level that politics plays in corporations and other life. I'm much more of an entrepreneurial guy. I've always believed that you do your best; and if it's good enough, they recognize it. It's acknowledged. It has its own rewards. And I've always disdained the politics. Now part of the reason might've been that I was never any good at it. If I had been, maybe, good at politics, I would have more respect for it now in organizations. So, one, I admit I was never good. Secondly, I was always naïve about it as well. I didn't recognize how much weight it carried relative to just having the right answers.

STONE: When [Charles C.] Pete Conrad [Jr.] came over to direct the Skylab Office, did you say to yourself, "This is it. It's time for me to move on."

CUNNINGHAM: No, not immediately because I loved the opportunity to work with Pete. Pete's really a capable guy. But I knew that if Pete was there, there was no way that they were going to make Pete backup to me. It was tough enough to make Wally back up Gus. There's a pecking order in these things. The pecking order, I didn't like too much. The accomplishments I did. Pete was really good. Pete had all the qualities it took to do a job like that, so I became Pete's backup fairly quickly; and I could figure out that the next time I'd get a chance to fly would be when the Space Shuttle flew in the 1980s, 1981. Things like that. So, it was not too tough a decision to leave. I needed to—I had kids that were growing up. They had to—I had to earn a living so they could go to college. (We didn't get paid very much.) And I felt like I had better things to do than wait 7 more years, 8 more years,

possibly, for another flight. I didn't like that, because one of the things I always wanted to do was command my own flight. But it just seemed like a sensible decision to me.

STONE: You bring up an interesting point, and I'm going to be nosy for a second here. How did you guys live as well as you lived and not make any more money than you made?

CUNNINGHAM: Well, the military—

STONE: And as I say, you don't have to answer that if you don't want to. I'm—it's a curious point though.

CUNNINGHAM: No, no, I think it's a good thing to point out. I went to work as an astronaut in 1963 for the most pay I'd ever gotten up to that time because I'd been either in the military or a student working part time. And they—the—I started for \$13,050 a year. And I can remember thinking—even though it was the most I'd ever made, I remember thinking, “Now this is the most sought-after job in the world. It's surely worth more than that!” But we—for a few years there, we still had—we had some residual income, which was very unusual for the government to approve this. But World Book Science Service and *Life* magazine had a contract for the astronauts' personal stories, which for a couple of years paid us \$16,000. I think for 2 years, we got that. And it was something that was—it was a fixed amount that had to be split among all the active astronauts. So, as the astronauts increased, it went down—

STONE: The figure went down.

CUNNINGHAM: —plus the contract ran out about it. I think, the last year I got \$256 or

something like that. But in any event, it helped because we really did need some assistance. We traveled a lot. We needed to have a home in a safe place; it had to be convenient to the Center; we—it was the closest thing to a 24-hour job that you can imagine. And we had offices all over the country. I had a West Coast office, an East Coast office, Houston office; some places I had two offices. And we just were on the run all the time. So, that's part of it.

The other thing is, as an astronaut, you became desirable. You were invited to all kinds of things. The people in Houston opened their arms. I got invited to all kinds of concerts or music shows. It took me a while to figure out—I remember one of the times when the innocence came off as we were invited to the Theater in the Round out here. I can't remember what the performance was. But Wally and Jo Schirra went, and my wife and I attended. And we were sitting there, and before—just before the show started, they introduced us and we stood up. (Everybody was always wanting to see the astronaut.) And as we sit down, Wally says, "Well, we just paid for our ticket." It kind of rankled me, but not enough so I turned these things down—

STONE: Yeah.

CUNNINGHAM: —you see. And it's like I mentioned. The cars, for example, you could get a car that you borrowed from the dealer and would turn back in. I mean, so—

STONE: A 4% mortgage.

CUNNINGHAM: —yes. That's right. I don't remember what the going rate was at the time, but I sure loved that 4% mortgage on my house.

STONE: Yeah, yeah. So, you had to have those things to maintain the way of life that you had to maintain?

CUNNINGHAM: Well, that's one way of looking at it. But people expected us to dress a certain way—

STONE: Sure, sure.

CUNNINGHAM: —be a certain way.

STONE: Sure.

CUNNINGHAM: And we absolutely could not afford it on a regular salary.

STONE: What did your wife and kids do at this time?

CUNNINGHAM: They suffered a lot more than we ever thought about. I mean, many, many weeks we'd leave Sunday night or Monday morning and come back Friday night or Saturday morning. One year I was gone all or part of 265 days. And when you came home, you had to catch up with the discipline for the kids usually. The lawn needed mowing. You'd be out there sweating, shirt off, mowing the lawn, and the sightseeing buses come by and they'd all wave at you. You had a lot of responsibilities. A lot of people today would probably call it stress. We ate it up! We were proud of the fact that nothing could get us down, you know. I mean, it was stupid!

STONE: You titled your book *The All-American Boys*. And I've never known whether that was a tongue-in-cheek thing or whether you characterized the astronauts as all-American boys. Were they expected to be all-American boys? Or were they?

CUNNINGHAM: It was tongue in cheek. And it came from when I was a kid, they used to have a radio program called *Jack Armstrong: the All-American Boy*

STONE: *The All-American Boy*. That's it.

CUNNINGHAM: And the public thought of us as all-American boys. It—we were that hero that you said. And most of the guys played that hero role to the best advantage they could all the time. I mean, you know, we got away with things that other people wouldn't get away with, whether it was speeding or going places we couldn't otherwise afford. I remember getting invited to the island of Scorpios, for example, when—the most desired place in the world. (Of course, NASA wouldn't let us go to that.) But I mean, it was one thing after another came our way and we didn't take the high road necessarily. We took advantage of a lot of those things. You couldn't go anyplace without all the women in the place looked at you like all of a sudden you were Superman. It was just—it was an unreal kind of existence because, during those days, we were the celebrities' celebrity.

STONE: True. That's very true. It's a heady thing to do, isn't it?

CUNNINGHAM: Well, you got to keep your head on straight. Some guys didn't.

STONE: Then you become an ex-astronaut. What's that like?

CUNNINGHAM: It depends, once more, on your attitude. It's like an ex-jock, an ex-athlete, or ex-politician. Some of those people can't get off stage. They just don't know how. And a lot depends on just how you decide to handle it. And I'm not sure which is the best way, but I know what the best way is for me. I always looked at it as something else I did to help me in the future. The same as when I was in high school is, I thought, "Well, that was good. That's an accomplishment. I took certain things out of it. But I'm going to do something else. I have to pay my dues." I never—I didn't believe that I had to start at the top in some other profession just because I had had this admired role in one. Some people did that.

I can say, with a straight face, that I honestly believe that I gave more to the space program than it gave to me. And it wasn't just the spaceflight. Sure, that was great. But I gave me, and I gave my best thinking, and I organized. I worked on things and got some things done that somebody else might've done, but I did them! And I'm proud of that. I didn't walk away feeling like it had been a one-way exchange. And that's been what I would like to do with my life. I like to have a greater impact on what's around me than it does on me. I don't want it to change me. You've known me a long time. How much have I changed?

STONE: None. Not a whit that I can see. You did come out of the—out of NASA at a—not the most fortuitous time in the world because the banking crisis hit and things went to hell in a hand basket around here. Were you affected by that?

CUNNINGHAM: Well, I looked at several things to do when I came out, and I had people wanting to set me up as a consultant. I had people wanting me to come back and run for Congress in California. I had some interesting job offers, but in the end somebody from Houston says, "Why don't you come and talk to us here in Houston?" I've loved Houston.

Houston has people here that over the years, they do so much for people coming in. And I've tried, since I've been here, to do some of that back and can only hope that somebody coming in today will find the same kind of atmosphere. When people stay in Houston, they stay here because it's the people more than anything else.

STONE: Yeah. It's not the climate, is it?

CUNNINGHAM: So, I was glad when I had an opportunity to go to work here. The first non-technical job of my life. Then I got back into some technology and felt good about that, too. I like to kind of repot myself every so often. There was a time when I thought that I gave my 30s—well, going back. My 20s to education. My 30s to government service. My 40s, I was going to make my fortune. And in my 50s, I would maybe go back into government service and try to give it back again. And it worked okay until I got off schedule in the 40s. I didn't make my fortune. Therefore, I couldn't go to the 50s! And it removed the obligation of going back into public service—

STONE: That's true. You don't have to worry about that anymore.

CUNNINGHAM: —which—I certainly don't have that same admiration for public service that I used to.

STONE: Yeah. You do—you're doing a radio show now, among other things. Do you enjoy being on the radio?

CUNNINGHAM: I'm enjoying it very much. It's using something I've done all my life, and I think we all look forward to that. It's like an athlete playing baseball. You grow up being a

baseball player, then if you get paid to do it that's wonderful! It's like me being a pilot all my life. Nothing was better than being a pilot. And then you get a chance to do these wonderful things, and they pay you. And they keep paying you to be a—to be a pilot, to fly these airplanes! Something, you know, we would've paid NASA to become astronauts. That's how much we wanted it.

Well, all my life I've been an avid reader of everything. Things that I will catch myself reading and say, "Why am I wasting my time reading it?" It's because I want to know. So, I collect things; and I've got compartmentalized stuff, all my life, on character, morality, military, business. I mean, just all these kind of things. And so, with this talk show where I'm the host of a talk show—a call-in talk show—people can talk to me about anything. They are willing to accord me being an authority even when they don't even know if I know anything about it! So, I'm free with my opinion, and I think that I am bright and aware of a lot of different things. So, it's a great pleasure for me to do it. I don't like the discipline too much. Every night is bothering me.

STONE: Yeah.

CUNNINGHAM: You've done that.

STONE: I've done that. And I'll tell you that after a while, it gets real old.

CUNNINGHAM: Oh yeah.

STONE: But, you know, it's still great fun. It keeps your mind alive.

CUNNINGHAM: Yes!

STONE: That's—and that—after all, that's what it ought to be all about. Do you still have astronaut buddies? You guys still get together and—I'm not suggesting you raise a few, but do you ever get together and raise a few and talk about the good old days?

CUNNINGHAM: Well, the good old days. I definitely believe that we lived in the good old days. We lived in the golden age of manned spaceflight. We've been in space now for over 40 years. The first 40 years of aviation, we went from just barely flying to jet transport, you know. And now, we haven't moved that far since we went into space. The days through Apollo will be remembered; there'll never be another time like that again. Even when we go to Mars, it will be different. And I feel just fortunate that I was a small part of this particular time in spaceflight. What was your original question?

STONE: Do you still get together with your friends—

CUNNINGHAM: Oh.

STONE: —and talk about the old days?

CUNNINGHAM: And as I get older, I now appreciate it. I took it for granted! Most of us did.

STONE: Yes.

CUNNINGHAM: We never thought a thing about it. We didn't collect mementos. We didn't do anything. It was us. It was either—it was all about us. We were just charging through life. And for many years after I left NASA, I spent time trying to be perceived as something

other than an astronaut, because I knew it was hard for anybody to get by it. You could get a meeting almost anyplace if they knew who you were. But that's not what—

STONE: Yes, yes.

CUNNINGHAM: —you were there for. So, it's hard to move past it. And so, I went through that self-conscious stage where I think I was self-conscious about reminding people about the things I really could do. I wasn't just a pretty face that flew a rocket. And then I adjusted to it. So, now I no longer pooh-pooh it when somebody comes up and wants to say how much they admired me or what I did and how great it was. I've—I think I've finally become comfortable with myself, where I just kind of accept it. And furthermore, I find myself now preaching about the golden age of manned spaceflight, because something went on there, within us, that we're missing.

When we went to the Moon, it was not only just standing on a new plateau for all mankind. We changed the way everybody in the world thought of themselves, you know. It was a change that went on inside of us. And we're losing that. I'm not so much concerned about the world losing it. I am concerned about America losing it. We have changed into a cautious, fretful civilization over here. And I cannot stand that. Life should not be risk-free. We shouldn't be thinking only of existing. We ought to be thinking about living! And risk is very important in your life. We grow by risk. By overcoming challenges, we grow as a people. We have gotten to the point where we're afraid to take a chance.

I use a quotation when I'm speaking, from time to time, that on Apollo 11, they left microfilm messages from the leaders of all the free nations of the world. And the one from Australia, the Prime Minister of Australia, Gorton (Prime Minister Gorton at the time), his message was wonderful because he said—he had a couple of platitudinous sentences about the accomplishment. Then he went on to say, “May the high courage and technical genius

which made this achievement possible be so used in the future that mankind will live in a world in which peace, self-expression, and the chance of dangerous adventure are available to all.” I believe that.

STONE: That’s wonderful. When you looked out the window as you flew in space and saw the Earth, did you think, “Well, in my lifetime we’re going to be colonizing the Moon. We’re going to be going to other places.” Are you disappointed that we just have quit?

CUNNINGHAM: The—at the time in space, I don’t recall many of my thoughts when I was in space. And I can’t even claim that I remember so much what I saw, because I remember it from the pictures that we took now. I mean, it gets very confusing.

STONE: Sure.

CUNNINGHAM: I remember my thoughts the first time I looked out. The second time around, I looked down (and this was in ’68, right after the Six Days’ War in the Middle East), and I looked out the window. Filling my window was the Sinai Peninsula. And I remember thinking, “Gee, it looks just like in the drawings they had in the paper.” I mean, very accurate. And I just had that thought. I remember that. So, we didn’t think a lot about where we [were]. We didn’t philosophize up there at all. And maybe that’s why they complained. They wanted to put a poet up there! There’s not much room for a poet up there. We had things to do. And we thought about doing that all the time. That’s why—that’s why it looks so easy.

Since that time, I’ve done a lot of thinking about it; and when I came back, we all thought—I was part of a Study Panel in 1971 to select the next major program for NASA. There were several. The two that I will mention is, one was recoverable spacecraft and

recoverable booster. (They didn't do the booster but they got the Shuttle.) The other—another alternative was to go to Mars. They rejected Mars, principally, because of the cost (it would've been \$120B). But it wasn't just going to Mars. It was going to Mars by 1984! You know, every 6 years you have—had a good opportunity to go to Mars. '84. '90. '96. '102 [*sic*]. We're not going to go to Mars in my lifetime. And it's because we have changed so much our attitude here.

People say, "Well, it's expensive." Yes, it's expensive! But we can't even count yet what our payback is from what we spent to go to the Moon. We—it's what it does not only inside of us; it's what it does for our economy and all the things we develop. We're not going to go to Mars because people are too cautious today.

We could go to Mars. Do I favor it? Why not? Sure. If I was to pick everything, I would say we need to develop a better propulsion system so it doesn't take so long. But these are all details. We have the technology to go to Mars! Now they're talking about, because they don't want to bite off something this challenging—they're talking about return to the Moon. Why? So, we can rehearse what we need to do to go to Mars! And I say, "Well, where did we rehearse when we went to the Moon?" You see. Faint heart never won fair lady. We have become a nation of safety- and security-conscious people, and that's not going to be the spirit that gets us there. Our society, our country is not going to last anywhere near as long as the Roman Empire if we don't get off our duff and do something.

STONE: What do you think, boss? Are you good over there?

END OF INTERVIEW