

## ORAL HISTORY TRANSCRIPT

SEYMOUR LIEBERGOT  
INTERVIEWED BY MICHELLE KELLY  
HOUSTON, TEXAS – 27 APRIL 1998

KELLY: This is an interview with Sy Liebergot, conducted in Houston, Texas, on April 27, 1998, by Michelle Kelly.

LIEBERGOT: I would contact any of the lead flight controllers that were on the various missions by position. Bob Legler [phonetic] probably has the manning lists for just about every Apollo mission. He's got all that stuff. One of the lead retrofire guys was Chuck Deiterich, or Dee-der-ik, as the [unclear] always pronounce it. One of the lead FDOs, of course, was Jerry Bostick, and the guy that got a lot of mileage out of his call on Apollo 11 was Steve [Stephen] Bales. There's back-room guys. Jack Garman still works here. I guess Jack is a director now. Jack was the guy that told Steve what to say, that we're go on Apollo. [Laughter] He finally got his due. It took a while.

Flight directors are everywhere. Gene [Eugene F.] Kranz is writing a book that's due out in October, and that will probably, if it does what it should do, it will cover the ground part, the mission control part of our Apollo missions, and Mercury and Gemini. Charles Murray's book, *Apollo: Race to the Moon* that he and his wife wrote, that is the definitive book on the program. There's no astronauts in it.

KELLY: It has a lot of the controllers [unclear].

LIEBERGOT: It's wonderful. It was just an astonishing piece of work. And then there's a guy named Michael Esslinger [phonetic] who's writing a book about the recovery forces. I don't

know what he does full time, but he's a curator of the Apollo historian/curator on the USS *Hornet* Museum up on the West Coast, and I keep in contact with him to try to help him flesh out his research, because his book will concentrate on the recovery forces, which nobody's ever touched. They don't know. Guys like Milt [J. Milton] Heflin went out on the *Hornet* to deactivate the command module when it landed. So that is out there. Then all the astronaut books pretty much have it covered.

Then on the audio-visual side we've got the CD-ROMs that have been put out, like this Apollo XIII and the one I worked on, which is more archival in nature, the PBS documentary and the *Apollo 13* movie, if you're interested in that. They still haven't got the words right. You know that? Did you see the movie? It was on again last night.

KELLY: I haven't seen the movie, but what did they—

LIEBERGOT: When I give speeches and I throw a slide up, I remind people there was a book written called *I Never Said That*, which I've been told about, and the author in the book attempts to say this is not what they said. He didn't say, "Play it again, Sam," in *Casablanca*. He said, "Play for me again, one more time," or something like that, Humphrey Bogart. That's the only example I can recall right now. And I say, in Apollo 13, for example, he didn't say, "Houston, we have a problem." He said, "We've had a problem." I cannot believe that Ron Howard let that mistake get through. Jack [John L.] Swigert [Jr.] said, "We've had a problem," and then Jim [James A.] Lovell [Jr.] repeated it. So remember that. I didn't say that. [Laughter]

So there's a lot of material that is archival in nature that other people have done. As an example, Michael Esslinger is digging up photographs of recovery forces guys, the frogmen and all that, that he found were water-soaked pictures, and he really must be doing a great job. If you don't recall, the USS *Hornet* was the Apollo 11 recovery carrier, and that's

where the crew were quarantined in the end. He has pictures of that. Apparently there's been a couple of reunions there, and, of course, Buzz [Edwin E.] Aldrin [Jr.] shows up. He shows up everywhere. He's incredible.

So I would at least see about collecting a lot of that archival-type material wherever it is. Apollo 13 probably is among the best covered, because it was an accident. There's been a lot written about it.

KELLY: We have contacted a lot of different authors and people working in the private sector. A lot of times they don't want to give out their information for anything.

LIEBERGOT: Charles Murray, well, you have his book. It's in the library. I have his phone numbers. I don't talk to him very much because he's—that wasn't his bent. He's a sociologist, and that's what he does. But I don't know why he got it in his mind to do this. It took him five years to write the book.

KELLY: It's actually pretty short, a short time frame, period, compared to some of the other books.

LIEBERGOT: It was so hard for him to cover it all. He accomplished something nobody else really did. He met everybody or he met people that knew the people that had already passed away. He knew everybody that was instrumental in making the program go. He knew everybody, and it was just astonishing how he made those contacts and became friendly with them all and had anecdotes about people, like George [M.] Low, mild George Low, who's the guy who said, "Let's go to the moon on Apollo 8." You never would have dreamed that George Low would have the guts to do that.

What I would do is build a list of what might be considered the prime flight controller contacts to see if you can wrest away their collections, because I have a lot of stuff I've collected, and, of course, I had, in addition, because I was doing the help on the CD-ROM. When I pass away, where's it going? It's not going anywhere. It'll probably get trashed somewhere or it'll get spread around. So that's probably a needy thing to do. And I know Doyle [McDonald] told me what happened with the Rice [University] thing, it didn't work.

KELLY: Right. We're still trying to work on that anyway.

LIEBERGOT: That's too bad. You need an environment to protect the paper. Who's going to pay for that?

KELLY: The National Archives certainly isn't doing a very good job of it.

LIEBERGOT: That's a lot of paper that is not going to last. I was astonished that my tapes stayed in my desk at work for twenty years without self-destructing. I was amazed. They were still good.

KELLY: If you were to donate your materials, what would you be looking for in terms of an area, or what priorities would you look for in a place?

LIEBERGOT: Well, you know—well, perhaps you don't know, I was a EECOM flight controller throughout all of Apollo, from the beginning to the end, as well as ASTP [Apollo Soyuz Test Project] and Skylab and the beginning of shuttle, [when I finally had it] up to here with it, which nobody could understand, that I wanted to not be a flight controller anymore. Can you imagine that? [Laughter] Probably the most exciting time for me was the Apollo 13

thing, so I was kind of a focal point for a while. So if that's your question, much of my stuff centers around that, and you would probably have a big area for that mission, because it's so well documented, so much written about it, so that would be a place to put it.

KELLY: What would you look for in a place to put it?

LIEBERGOT: If you were asking me that question of anybody, they would want to make sure that the materials that they had would be in some kind of an environment that would preserve the materials and that the materials would be available to anybody that wanted to—they would have to be archived in some manner that people could access the material. I mean, what good is it sitting in a box? So that would be very important, the environment and the cataloging and the availability. Have you come across other questions?

KELLY: No. That's been the two criteria—

LIEBERGOT: There's no point in giving it to somebody if they're going to stick it in a box and stick it somewhere, like apparently happened with the Rice thing. I thought of giving it to my alma mater, my college, but they wouldn't—the name of the game is, if you give it to somebody, you've got to send money with it to protect it. I don't think anybody's going to be able to do that. So whatever it takes to protect it environmentally and make the materials available, which means somebody's going to have to go through—probably the best thing is to go ahead and put it on another medium so it wouldn't be used all the time. That's what I would do.

I would certainly make a list of the prime flight controllers, the MOCR [Mission Operations Control Room] flight controllers, and not just them. Bob Legler was never a

MOCR guy, and I would see about that. He has a lot of stuff, and I don't know what his plans for his stuff is.

KELLY: A lot of the people associated with the back rooms for the flight control, were they involved as much as the controllers themselves?

LIEBERGOT: Only from their areas of expertise. It's just like any organization. The way it disintegrates is you have a flight director who has a number of mission operations control room flight controllers, and each of them has a staff in the back room. Like during Skylab, I had five people back there because it was such a complicated spacecraft. On Apollo, I had one prime electrical system going, one prime environmental system going. Environmental control system and electrical power. Technically I only had two people back there, and they only concerned themselves necessarily with their areas that they were responsible for. Like the environmental control systems guy also had the cryogenics, which was prime on 13. It turned out that everybody got affected, electrical power and the fuel cells and stuff like that.

What happens is, they don't necessarily know how to talk to each other. They talk to me, the MOCR flight controller, and I put all their inputs together, and then it goes up the line. Gene Kranz, or whoever is the flight director then, integrates all the inputs coming in from everybody. It's interesting. That's why I could never be a flight director. It's too much to juggle, a lot.

KELLY: Were most of these people contractors or were they ever civil servants?

LIEBERGOT: The front-room guys were always NASA, always. Rare exceptions were they not. The back-room guys mostly were contractor, and that's changed now. Now it's all mostly contractor everywhere. So the career people, so-called career people, were in the front

room, and that's how we did it. As NASA, we had the prime responsibility for success or failure of the mission, and that's what we did, and we worried about that. So the people you'll be talking to or contacting mostly will be NASA, ex-NASA, mostly retired now.

KELLY: Lucky for them.

LIEBERGOT: Well, it's not that. It's just that you're going to have to find them, and that's not going to be a problem, because Bob Legler has most of their addresses, because we have reunion things.

KELLY: What a good idea.

LIEBERGOT: We had a twentieth anniversary way back of Apollo 17. Last year I think they had one for Apollo 16, which I couldn't get to because it was practically flooding around here, and they really had a lot of people from around the country came in for that.

KELLY: That's terrific.

LIEBERGOT: My company, one of the three owners of my company is Gene [Eugene A.] Cernan, so he's still around. But you've got to get them before they get away. I personally think this effort should have started a long time ago, and I'm just astonished that it didn't. I've always been disheartened by the lack of attention to history on the part of NASA in general. Somebody should have really been leading that. As far as the flight controllers are concerned, all we did was just go to work and fly a mission, go back to the office, throw the old books away. That's what we did, unfortunately. I threw everything away. Wish I hadn't

thrown some of that stuff away, but I didn't have anyplace to put it, and we'd toss it away and go get ready for another mission three months down the road, go to the moon.

KELLY: That's one thing that people will remember a hundred, a thousand years from now.

LIEBERGOT: They'll wonder why we didn't go back. That's another thing people ask me, "Do you think we'll ever go back?" when I give these little speeches.

I say, "Well, we'll never go back to the moon in my lifetime."

And Mars? Who knows. Thirty years? It all depends on what we find there. But you can kiss off the moon. And I know how [George W. S.] Abbey feels about it. We should already have a base there.

KELLY: Who are some of the people that you worked with during your missions that you think people might have a really keen insight into besides some of the lead flight controllers and flight directors?

LIEBERGOT: Well, that's most of who would have the insight into it, because they're the ones that worked it. The flight directors always, because they had kind of an integrated approach, integrated view of things. On a personal basis, on a more micro basis, it would be the individual flight controllers, and Legler is one. There's anecdotal material—I mean, there's anecdotes just—there's a place that we had a watering hole for the flight controllers was this place down the highway through here called The Singing Wheel Restaurant, which is still there. In fact, it became a German restaurant, and now it's closed, and it's probably going to be torn down. That was the place that we went to always. We went there before and after missions. We would drink beer with some of the astronauts, if they were so inclined. Some



of them were pretty good guys and weren't too sold on themselves. So that was the prime place. We always went there after work.

Now the people go over to this place called The Outpost, which is just not the same. They had to have another place, and it's different people now.

After the missions we would what we called it splash down with the crews at a place in Dickinson called the Hofbraugarten, a German restaurant. It was on Dickinson Bayou, and it's not there anymore. We actually had our missions mugs, like the [WWII pilots], turned to the wall when we came, and we'd have more fun drinking beer and arm-wrestling, you know, just guys.

KELLY: Would you care to tell us some of your stories?

LIEBERGOT: Well, there was always stories about the arm-wrestling, Indian arm-wrestling, and leg wrestling that guys like—Jack [Harrison H.] Schmidt was one of the prime players in all that. He loved to do that kind of stuff. Most of the guys didn't do that.

Since we splashed down there, when we did ASTP, the Apollo-Soyuz mission in '85, I was the [lead flight controller] for virtually all of the Apollo missions and ASTP, and I guess the things we had to deal with on Apollo-Soyuz--the first time we ever dealt with the Russians, and culturally they were quite different than us. They had a very closed society. It was always reflected in the way they approached you. You'd want to know the time of day, and they'd go, "What have you got to trade?" That kind of thing. Everything was negotiable. If you didn't write it down, you didn't know what to expect.

We were running joint simulations one time with the Russians, and I forget how we got it all done. They were in their control center; we were in ours. We had a script we were going to, and somehow we discovered from the reporting that—here's CSM and the docking tunnel that we used to equalize the atmospheres, because they were air, we were pure O<sub>2</sub>—

the airlock, it was called. And we're kind of holding steady, and they're flying around us, we discovered. Pete [M. P.] Frank [III] gets Alexei Yeleseyev on the line, and he says, "Why are you flying around us?"

"Well, we're taking photographs."

"We never agreed to that."

"Well, you didn't ask." And that's how they were. They could have crashed into us if we had moved. So, that kind of thing.

There were egos abound, like with Tom [Thomas P.] Stafford. He was the commander of that thing. He and I had a little running battle. One of the things that fell out of Apollo 13 was that we didn't get to the water in the command module quickly enough and it froze, and we had a water shortage, and it was kind of critical for the flight home. So among the things that we corrected after Apollo 13, like putting on an extra oxygen tank and extra battery and all this other stuff, which we never needed again, we also put a bunch of plastic bags on board to fill with water. The plan was that if that ever happened again or if the water tank developed a leak, quickly start filling water bags to store water.

So I was going over the manifest before the mission, which was my job, to make sure I understood what was on board, with Terry Neal—I think Terry's still working there, crew systems—and I said, "Terry, where's the water bags?" This is ASTP after we'd finished Apollo.

He says, "What water bags?"

I said, "The ones we're supposed to have on board if the portable water tank leaks."

He says, "They're not there."

I said, "Where are they?" So he called over there, and they're still in bonded storage. I said, "We need to get them added to the manifest because we're running an international mission, and it would really be embarrassing if we developed a plumbing leak and we had to

abort the mission because we had a water leak. If we had the bags on board, we wouldn't have the problem."

He said, "Okay. I'll take care of that."

Well, Stafford found out about it. He says, "I don't want the bags on board." Figure.

KELLY: This was on ASTP?

LIEBERGOT: Yes. Figure. "Why not?"

"I don't want them on board." He decided that I wasn't going to tell him what he was going to put on his spacecraft. So they weren't on board. We told the simulation guys, "The next time we have a chance running orbital simulations, why don't you fail the portable water tank," which they did. And we told them to go get the water bags out and start filling water bags, and of course we didn't have to abort the mission. That was the mission rules. Stafford yells down, "That one's for you, Liebergot," dripping with acid. He was just dreadful.

The other time we were running joint simulations with the Russians--I never understood him. We were debriefing in joint simulation in Russian and here, and the lead flight director for them was this former cosmonaut Alexei Yeleseyev, a nice guy. We had Pete Frank on this end, who was really unflappable, always polite. So Yeleseyev is debriefing his end of it, and he keeps referring to Tom Stafford as "Stafford." It was "[Donald K. 'Deke'] Slayton this," it was "Stafford that." You know, "[Vance D.] Brand this, Brand that."

And all of a sudden he breaks in during Yeleseyev. He says, "Excuse me. That's Brigadier—General—Thomas—P.—Stafford." And there was stunned silence, absolute stunned silence. [Laughter] So Yeleseyev called him "General Stafford" after that. I never understood it.

So where I'm going with that anecdote is that it fell to me—you know, they almost died on ASTP because Vance Brand forgot to turn on two switches of the Earth Landing System, and the crew always wanted to manually turn them on so their chutes wouldn't deploy in orbit if that could ever happen, the parachutes. They liked to turn these two Earth landing systems, sequencing systems, on about, whatever it was, 24,000 feet, 40,000 feet. Well, Vance forgot, and by forgetting to do that, a couple of things happened. A lot of sequences didn't happen, like one, where the apex cover comes off to expose the parachutes to be fired. The other thing that happens is that it shuts off the reaction control system jets that are keeping the thing stable. These are hydrazine, extremely corrosive.

Well, by not doing that, there is a valve in the main hatch in the command module that automatically inflows when the pressure outside gets greater than the pressure inside. Well, it did that. Also, since the jets were firing, it sucked in hydrazine fumes inside, highly corrosive, and those guys couldn't see, couldn't breathe, and Stafford quickly told them to get their masks on—they had O<sub>2</sub> masks—and he remembered the two switches. He reached over, switched the switches on.

So we got to the Hofbraugarten, beer garden, after the mission. Slayton also screwed up. Well, Stafford had screwed up during the mission because he had forgot to turn a switch off, and he flooded this additional cooling system we had and froze it solid, which meant that instead of having an even temperature, the temperature would go up and down in the cabin. Nothing we could do about it. Plus the fact that if the ice had expanded enough, it would have punched a hole in the cabin and they would have died.

Slayton was docking with the Russian spacecraft and hit a jet control handle and caused the command search module to yaw, and almost broke the interface. I mean, it was just incredible. And Brand forgot to throw those two crew switches and almost killed them all.

So I decided I was going to have fun with them. So after we had been drinking a while, I called Deke [Slayton] up and I said, "Deke, for the incredible driving job you did, here's an insurance policy, collision." And I made mention of it. So he sat down and called Stafford up. We were standing on the tables, you know, and I said, "Tom, in commemoration of your ability to freeze up cooling systems," I reached in, got a ten-pound block of ice, and handed it to him. And he's standing here with this ice, and the water's dripping on his shoes. It's absolutely the worst thing I could have done to him. [Laughter] And Vance, I had taken the two crew switches and had them mounted on a piece of walnut with a little brass plaque and all that, which Pete Frank tried to talk me out of. I said, "What are you talking about? They walked away from that." And I gave that to Vance, and he said he still has that on his wall at home.

KELLY: Really.

LIEBERGOT: Oh, yes. Hey, he walked away from it. So it's that kind of anecdotal material that abounds in the program.

Among the egos, of course, was Walt [Walter M.] Shirra [Jr.], who his buddies in the astronaut corps, when we wanted to bug him, we called him "Skyray," which a reporter called him, mispronounced his name when he first came into the program, and they latched onto that and called him "Skyray" from that point on. It used to really honk him off.

There are lots of anecdotes. The time that Jack Schmidt poured a cup of coffee into one of the consoles and shorted it completely out, he did that back in the span room. He reminded me one day of what I said when we went into orbit around the moon on Apollo 8, you know, "Beat the Russians to the moon."

I said, "I didn't say anything."

He said, "You always tell anecdotes about me," a little risqué thing, like he was the first geologist to get his rocks off the moon, as we say, and I make sure I say that.

He said, "You don't remember what you said?"

I said, "No. I didn't say anything."

He said, "Don't you remember standing up at the console, the com console, and over the air, not over the intercom, yelling, 'The Russians suck,' as loud as you could?" [Laughter]

"Oh, yes, I guess I did."

Jack was one of the guys that hung around the control center. He knew everybody. He was a good one. So when he got to fly in Apollo 17, he knew everybody in the control center. So he knew what shift they were working, and he always kept it personal that way. He could yell down, because he knew who was working, "Hey, Sy," or, "Hey, So-and-so, thanks a lot for the—" whatever. That was cool. But there's a lot of that kind of thing that gets away, the anecdotal stuff, and stuff like that won't be in a book either, because you don't dare put that stuff in a book.

But anyway, I think the first thing you'll have to do is really restore that third-floor MOCR. I don't know what you're going to do. By the way, the layout's in my CD-ROM as well.

KELLY: Is it really?

LIEBERGOT: Oh, yes. The layout is in there with the whole third floor. The early CD-ROMs had one mistake in it I referred to, that we had flown all the missions from the second floor. [unclear] third floor. We corrected it later. That was my one glaring error. I don't know why I had that in my mind.

And that was another thing Doug said. All the mission plaques were taken down, patches, so we don't know what mission was flown from what floor, which is a small point. They'll never know.

KELLY: Did you work on Gemini?

LIEBERGOT: No. I came in right at the tail of Gemini, the last several flights. I think we flew a couple from Building Thirty. I came here in '64, and they were just finishing up Gemini. I was working for North American Aviation, it was called then, and that's why I came down. I came down here for the Apollo thing. I was strictly Apollo, right from the very first one, 201.

KELLY: What did you do at North American? Were you an engineer?

LIEBERGOT: I was going to college back there and working for them and then became a supervisor for their--they had a large group of part-time engineering students that they used for overflow work from the day, and we would work like from 1:00 to 11:00. Most of them would work like from 6:00 to 11:00 or 5:00 to—whatever it was, but I became full time as assistant supervisor. We had 160 people, and we would do the engineering work, the overflow engineering work, kind of simple stuff for the engineers. Then I went to work for them as a full-time engineer and finally graduated and stayed with them. Of course, they ended up getting all the contracts. I was with them—God, it was just dreadful. There was no work. And then suddenly, that one fall, we had prime contractor on the CSM, and we had the S-II stage of the Saturn V rocket and this funny thing called "paraglider," which was a way we were going to bring the Gemini spacecraft in. Ha-ha. And all of a sudden we went from a dearth to a plethora of work. It was incredible.

Then I kind of drifted into the ops game. They set up an ops group to support NASA down here, a flight operations group. I applied and went to work for the group, and then the group left to come down here to Houston and left me back there as lead to funnel material. After eighteen months of that, I got pretty tired of it, and I said, "I want to go down there."

So I transferred down here, and then after about eighteen months of that, I said, "I don't want to be a back-room guy. I want to be a front-room guy," and I switched over to NASA in '66. That was it. "Let's go to the moon." [Laughter]

KELLY: Did you get a chance to work with all of the different flight directors?

LIEBERGOT: Oh, yes. Sure.

KELLY: Did you move around with one or two in particular?

LIEBERGOT: No, no. It was whoever. What we did try to do, though, management did try, where they could, the back-room guys who were more expert in the various systems of the spacecraft than we were, just as we were more expert in how the spacecraft worked than the flight director. They tried to pair or match up with--like, say I wasn't very strong in instrumentation systems, they would make sure that the back-room guy that I had, was strong in that so he could make up where my weakness was. So they tried to always form a team that was strong all the way around, and, of course, it meant I had to be sure I asked questions, too. Egos don't get by in that business, especially if [Christopher C.] Kraft's [Jr.] still around. You never try to sandbag a flight director. You always say, "I don't know." That was what Kraft taught. If you didn't say that, you were out.

KELLY: Did you get to work under him?



LIEBERGOT: No. He had become management by the time—I mean, I was there during the—I went down to the Cape during one of the last Gemini simulations that they had in the old control center down there, so I got to see him work, and I couldn't appreciate it, obviously. Now I would. And then, of course, he knew who I was after a while, by first name. He is quite surprising. I'm just surprised he never wrote a book.

KELLY: From what I understand, he's in the process of doing just that.

LIEBERGOT: Well, it's getting late. [Laughter] It's getting a little late. In fact, Charles Murray had that comment—this is back in '88—he couldn't understand why Kraft wasn't very cooperative with him in writing the book. The only thing he could guess is that Chris was writing his own book, and that would make sense, but that was '88. Figure. Ten years later—

KELLY: We've heard that he's currently working on it.

LIEBERGOT: Well, he should. He was the first. I mean, there's no need for anybody like Kraft again. Now everything's written down, all the rationale for everything is written down, and these guys don't have to argue and think for themselves. We used to have mighty arguments over flight mission rules and things like that. I mean, really, we were encouraged to be aggressive, and when we were told to shut up and sit down, we said, "Okay." There was nothing personal about it. But unfortunately a lot of that carried into our personal lives, and the average person really doesn't like an aggressive person—assertive, but not aggressive, and none of us knew that.

Kranz invited me to a book session he was having, one of the chapters, and he wanted to have some input. In fact, he videotaped the session. I think he did all the sessions. Mickey Herskowitz wasn't there, so that way Herskowitz could see how people were actually talking, and I told Kranz, I said, "The least you can do is make sure we get tapes of this thing," but I put a micro recorder on the table, regardless.

I forgot how interruptive and aggressive everybody was back then, and most of them still are that way. I got over that a long time ago. But I'd try to say something, on several occasions I got overridden either by Kranz or by Ed [Edward] Fendell or somebody else. I went, "Okay. I give up. It's not important." A lot of them haven't changed. They still have that same attitude, which really stood us in good stead, I think, back in those days, because we were taught to be responsible and not to be concerned about speaking up, because all they can do is say, "Shut up," and you had to be tough enough to take it.

So, yes, there's a lot of anecdotal stuff that—come out. There's a lot in the books. Another book probably belongs in the library, and that's the one that Henry Cooper wrote about Apollo 13. He was the first one, in 1970. He jumped on it immediately and got interviews. It was called *Apollo 13: The Mission that Failed*, an unlikely title, 1970, Henry S. Cooper, *New Yorker Magazine*, a thin little thing, but it was pretty well done, I thought.

KELLY: How, in your opinion, did most of these authors gather their information? Was it through documents, their interviews?

LIEBERGOT: Henry Cooper did it by interviews, and since he only concentrated on that one thing, everything was pretty fresh. He did it by interviews, and then, I think, when he had the vast part of the outline of the book done, then he turned it over to his technical writer, who did all the research. [Laughter] That's exactly the way he did it. I spent hours on the phone with Ann Britchkey [phonetic] or something. I can't even remember her name now.

Then when Jeff [Jeffrey] Kluger wrote the book with [James A.] Lovell [Jr.], he did the same thing. He spent hours on the phone. Jeff did a pretty good job. I confronted him about that. I said, "Now, look, you know, you're writing a book. I know you're the co-author and all that, but you've got to understand that the Apollo 13 was a mission operations mission. The crew would not have got back without them. They did some great piloting, but they did what we told them to do. If you're going to write another astronaut book, then I'm not that interested."

He says, "Oh, no, no, no. We're not going to do that. It's going to be on balance." And it was. I was proud of what he did, except there are a couple of big errors in that book, which I told him about. It was in the back. He had referred to some systems stuff that was inaccurate.

I think that the Lovell book was well done. I think that Cooper's book and Charles Murray's book was well done. The thing about Charles Murray's book is that it only dealt with the program, as I said, the development of program and the people that were involved. As a matter of fact, he wasn't going to write much about Apollo 13. And it's not a horn-blowing thing, because I would just as well not have had that experience, but every time 13 came up, my name came up. "I guess I'd better talk to this guy." So he came up, and we talked and we talked and we talked, and I think there's like one or two chapters on 13 in there because of that. He says he never dreamed there was that much drama associated with that. He found out about it, so he included it. I was so delighted he did that, because it turns out he's a really nice man, and he's very thorough. What makes the book, I think, even more attractive is that his wife, Katherine Cox, is a professor of English at some Ivy League college, at least she was then, and she brought a richness of language to that book that just was incredible. Some of the word descriptions were hers, the language she used.

KELLY: I've read that book, and I really enjoyed it.

LIEBERGOT: There's a scene where you come up the elevator and you walk into the hallway outside the MOCR, and there's language used there that is just kind of spooky. It really captures it.

\*Doyle probably doesn't remember, but I tell the anecdote about the headset locker thing all the time on Bruce McCandless [II], which we can get into. We tried to make sure that the astronauts didn't get too hung up on themselves when they worked in the control center. Bruce McCandless is a walking bucket of naivete, and even though he did such a great job with the EMU [Extra-vehicular Mobility Unit], but back in Apollo, when he would act as capcom, he would make the dumbest calls, the dumbest statements. He was just so impractical.

We would award him medals. I forget which mission it was, we gave him five of what we called DFMs [Dumb F--- Medals], and he didn't appreciate it, but he deserved every one of them. We were running a bunch of simulations, and he just was—he's the kind of guy that, during college, would be wearing a twenty-inch slide rule in a scabbard attached to his belt, the real nerd engineering student. If you go over there, those lockers are still there. There were groups of forty-eight one-foot-square lockers that just had the number on them and with a combination lock. We all kept our headsets in them. There was an EECOM locker and a Capcom locker and a FDO locker. We just left our headsets in there, and when we came in, we'd just take the headset and go sit at the console.

... [It was the Apollo 14, Big Al [Alan B. Shepard Jr.], mission], the EECOM console was right next to the capcom console, a little aisle... One day I came in [for Apollo 14 sims] to the headset locker, and I knew what my number was, and I looked over there, and there's a headset locker, and there's a yellow plastic Dymomarker, you know, embossed tape, and it says, "Capcom Locker."

I said, "Well, you dumb shit." [Laughter] He didn't even know where he was at. In fact, he had those labels on his—where he plugged in. One was "talk," one was "listen."

I went, "I'm not missing this opportunity." So I went and I checked out a label-maker, and I got some yellow tape, and I made forty-seven more labels that said, "Capcom Locker." I did. And I made a bunch more that said, "This way to the Capcom console," and I had them on the walls along the backs of the consoles, and I had "Capcom chair," "Right" and "Left Armrest," "Capcom Console," "Capcom TV," and just killed it. And I told the crew about it. I said, "I'll tell you what, Al, what I'm going to do is, when you guys do TLI (Translunar Injection), for that shift (for the TLI team), I will have them on before Bruce comes to work."

So I did that. All forty-eight lockers said "Capcom Locker," and all these strips going all around: through the door, along the walls, "This way to the Capcom console," "You're getting close."

So Bruce came in. He was fuming. Sits down, straps up, plugs in. We're in mission now, so we did TLI, we did the burn, and Al calls down. He says, "Hey, Bruce, have any trouble finding your headset today?" [Laughter] And everybody roared. He was fuming. Well, we had a saying, "You've got to be able to take a joke." Anyway, so that was among the anecdote stuff that we would do. A lot of people know the anecdote, but they don't know who did it.

KELLY: Did he figure out who did that one?

LIEBERGOT: Oh, he knew I did it. He was really kind of angry at me. And that wasn't the first time. He made some stupid mistakes on that mission. Plus, I think Al thought I was making the calls. Anyway, so that was among the things that we would do. There's a lot of anecdotes like that, that don't get anywhere. But that was my favorite trick: "This way to the Capcom console," "You're getting close," "Here it is," "Capcom Chair." That was wonderful.

So I don't know where you're going now, but like I said, I would recommend finding the consoles. I mean, it is really criminal.

I told Doyle [McDonald] about this CD-ROM. I've got some copies at home, which I could donate one. He goes, "Now we ought to pay the guy for it."

I says, "Well, you can call him," either way, but it's really a great archive. Like I said, it could be a lot longer, but on CD-ROM you've got 650 megabytes. That's all you've got. There's an interview with [James A.] Lovell [Jr.] on there. Most of it's all the graphics.

That was another thing that we were so proud of on this CD-ROM. The PBS guys, I told them I had actual hard copies of the actual displays on my console, which were crappy because of the old system we had then. It's a hard copy. But I had them. The PBS guys needed them redone so they were more legible. So they had the graphics people over in Building One recreate them in cleaner type. I had cut hard copies off the data just right after both the ECS [Environmental Control System] and EPS [Electrical Power System] displays. It was kind of in a time thing. So what we did was, for the CD-ROM, we took it and we animated it in terms of we put boxes around the data that was pertinent, like where the main buses went and where the cryopressures and quantities were going. There's a segment in there called "How the Data Played," and we had this lady announcer from one of the radio stations up there read a script, taking you through the data as it changed through the accident.

It's a tutorial thing. You can see that the voltage of main bus B is zero, and you can see that's reflected in AC Bus 2, which is now zero, that it fed. And here, down below, you can see the pressure in O<sub>2</sub> Tank 2 is now zero and Tank 1 is dropping rapidly. She reads through and takes you through the data as it played, and it's really kind of spooky to hear, especially if you experienced it, but it was just an outstanding piece of work, I thought. I think the whole CD came out good. It's just a shame it couldn't be longer. So I would highly recommend that to you. It's an archival piece, and if Doyle doesn't want to wait to get one, I can bring one over and navigate through it with you.

Let's see. There's a lot of written material about it, and in my collection I've got a lot of the original stuff that I wish I'd kept more of. Too bad.

KELLY: At least at one point we'd like to do an oral history interview with you and talk about specifically more of your experiences and hopefully anecdotes, too.

LIEBERGOT: There's a lot of anecdotes.

KELLY: And maybe if you have any of those materials, we could even do a video interview as well. We'd do it on digital, but we can hopefully make CD-ROMs out of it.

LIEBERGOT: Good idea. The Apollo XIII CD-ROM is sold over in the Space Center Houston.

KELLY: I think that's actually the one we have.

LIEBERGOT: I know that Fred sent a half a dozen copies of his. I'll give you the name of it. I've got it in my desk. I know that he sent a half a dozen copies to the PAO [Public Affairs Office], and somebody made a decision this was a piece of crap and threw it in a closet somewhere, I was told. It was full of inaccuracies, and that's not true. It was not full of inaccuracies. How can you take all 758 pages of air-to-ground voice transcript that was completely proofread and say it was inaccurate? It wasn't inaccurate. It was inaccurate only because the person who maybe looked at it briefly didn't know what was accurate and what wasn't.

One of the anecdotes in this thing, too, was that among the things that happened after these missions was these stamp collectors would find out where you lived, and they would

take their first day--you know what a first day cover is? It's an envelope that has a commemorative engraving on it of some kind, commemorating Everest or commemorating Apollo 13 or commemorating Apollo 11, and it's precanceled. Like in Apollo, it was precanceled at the carrier, and they pay for these things. So they send them around to get autographs on them of all the prime players.

So what I did was, I made photocopies of the ones that went through me and then passed the originals on. And then you get letters. That's the other thing. Some of these first day covers are in the picture library in this CD-ROM. You get letters, and I got this letter from this kid. He says, "Dear Mr. Liebergot, I am—" I forget his name now. Just dreadful. But he says "I'm seven years old and my father was in the military, and he's taken me to the Smithsonian. I'm ga-ga over the space program." He went on and on. And let's see, there was 1970, and I kept the letter, and I answered him back. I told Fred Shaler [phonetic] about the letter, and he says, "What a great letter." So I sent him my material, and he sent it back to me once they digitized it.

He says, "Guess what?" He says, "We went through the telephone CD-ROMs, and we found the guy in Minneapolis, Minnesota." I forget what town it was. "We called him up and interviewed him," twenty years later. [Laughter] And that's included, the follow-up. There's a photo of the letter and then the caption, just a caption. You can click on the letter to enlarge it, but the caption says about how he was--and the postscript was, "We found the guy and interviewed him. He is now a programmer for Ticketron, blah, blah, blah." You talk about kind of closing the loop on history. That was so delightful. They said, "Yes, we found his phone number." The guy must have fell off his chair when he got the call. [Laughter] But it's stuff like that. There's some anecdotal stuff in there like that. There's a dedication to Chris Kraft, his picture in there, too. I guess to get the cooperation of Bob Legler, I gave him an attribute, too, in the thing. I don't know if you ever looked at it.



The reason I mention to you the Apollo 8 is because they filmed interviews with John Aaron, with me, and Gene Kranz. The interviews in the PBS documentary—I'm disappointed. You haven't seen the documentary.

KELLY: I'm sorry.

LIEBERGOT: They show it about four times a year.

KELLY: Really?

LIEBERGOT: In fact, I think the rights to it were bought from the Boston PBS thing. This guy was doing a laser disk of the movie. I got a letter in the mail, and he said, "Dear Mr. Liebergot, blah, blah, blah, laser disk of the movie, and we bought the rights to the documentary, and you appear in it, and would you hurry up and sign this release form." He didn't realize the timing was about as bad as he can get, and I wrote him a letter back, and I said no. I said that the amount of time that I've spent making money for people on books and movies and the amount of time that a friend of mine and I spent providing documentary material for *Apollo 13* movie, I said it's over. I said I'm now a speaker in demand and I get an honorarium, blah, blah, blah, and I said no. "Good luck with your project." [Laughter] It was a nice letter. I just said, it's over, I don't do anything for nothing anymore, regardless. I mean, Lovell was getting 50K an appearance. That's what he gets. And I get a letter back almost immediately when I received it—no, I got a phone call. He says, "What's the matter?"

I said, "I thought my letter was pretty explicit. It's over."

He says, "Well, you know, we'll have to edit you out, and of course the project's done."

I said, "I don't care. It's nothing to me. Just edit me out." I knew he couldn't because they'd probably already finished the project, the pressings were already made, the laser disk. So he says, "Well, you know, Lovell didn't charge us."

I said, "I don't care. You don't understand. It's over."

So anyway, we cut a deal for a laser disk player and a bunch of laser disks and stuff like that. I told him it wasn't the money, it was the principle of the thing. "You guys are not going to do this anymore." I said, "I'll do it for charity, but you're not charity." In fact, they even had Universal in their letterhead. I said, "Are you guys associated with Universal Studios?"

"Oh, no."

I says, "Well, you could have fooled me."

KELLY: That's really interesting.

LIEBERGOT: Well, they put a quality product out, but that was beside the point. So it happens. But it's interesting to hear people respond. You ask them how many have seen the movie and 100 percent of the hands go up, and this guy said, "Well, I guess I don't have to tell you too much here." So it's kind of fun.

But we can do that. Find out what Doyle wants to do about the CD-ROM that I helped with. I'll be glad to donate a copy, but if he doesn't feel too stricken by conscience of getting something for nothing, if he wants to, he can pay me twenty bucks, you know.

[Laughter]

KELLY: We'll certainly follow up on that, and we'll also follow up with the calls to Al Reiner.

LIEBERGOT: Yes. That's going to be tricky. I don't know if those Taft guys are around. I guess not. I guess the contract got changed. But I'm telling you that's what he's telling, they caught him walking out with some tapes when he was making his movie *For All Mankind*, so they just guessed that he scarfed up those tapes, which are not of any benefit to anybody. They can't be played except on that one recorder that they reconditioned here.

KELLY: Interesting. We'll see if we can get those. Then, also, if you have those recordings on DAT [Digital Audio Tape] tape—

LIEBERGOT: I do.

KELLY: —you can get those, because we can make CDs for you, and if you wouldn't mind.

LIEBERGOT: Oh, I don't mind. Of course not. I'm just delighted that the stuff exists and the original analog tapes are still there. In fact, what I'll do is I'll probably loan you the analog tapes, but the girl over at Taft that made the DAT tape said they really came out good. She cleaned them up. You know, digitally you can do that, as you know.

KELLY: Are the analog tapes on reel to reel?

LIEBERGOT: They're on cassettes. A lot smaller, too. One of my hobbies is sound, you know, live sound, and I'm not going to buy DAT. I've got so much invested in sound equipment now.

KELLY: We're actually using DAT for our initial research, but we transfer it immediately onto compact discs.

LIEBERGOT: Okay. I'll do that. And you're going to let me know about that other CD-ROM that I worked on. I can do that.

KELLY: Absolutely. And then, if you wouldn't mind, if you can do a little more background research, we'd love to do a real oral history with you.

LIEBERGOT: Okay. Do you have an e-mail?

KELLY: I sure do, and actually you probably don't want to use the Southwestern Bell account one. We're in the process of leaving, actually, so that address won't work anyway. E-mail will still work.

LIEBERGOT: Let me cross out the Southwest Bell one. Yes, I can just E-mail you the one-page bio that I use for when people want to—

KELLY: Thank you.

LIEBERGOT: I mean, it's a quickie.

KELLY: And then we have some of these books [unclear].

LIEBERGOT: Well, they're librarial now. I don't know where you're going to find a copy besides the one I have of Henry Cooper's book.

KELLY: Yes, Cooper—I don't know if we have. I'll take a look.

LIEBERGOT: Yes. I've got my copy, and I don't know what to do about that unless you—

KELLY: We have some sources to get older books, and we also go through JCS Library.

LIEBERGOT: Charles Murray's book only had one printing. By the way, he owns the rights to it.

KELLY: Oh, really.

LIEBERGOT: Yes, he does. Simon and Shuster let him have the rights to it.

KELLY: Terrific for him.

LIEBERGOT: Well, unless you're trying to use it. Then his agent gets involved. Fred Schoeller, the fellow at Computer Software Corp, I gave him his number, and he called up and says, "Hey," he says, "I want to do a CD-ROM on your book, not a reading book, but an archival CD-ROM where people can reference and search through your book and use it as a research tool."

The guy said, "Talk to my agent." Of course, he called his agent, the agent wanted all kinds of money, so that killed that project. That would have been really kind of nifty.

KELLY: Yes. Well, we've actually been able to find two copies of that, so we've been lucky.

LIEBERGOT: I bought two. In fact, I gave Fred Schoeller a copy for his birthday. He almost came unglued. He's a real believer.

[End of Interview]