

Oral History Interview with Dave Waltman

December 4, 2019

Interviewed by Gerald “Jerry” Meehl, with Laura Hoff

Transcribed by Cyns Nelson

Note: Speakers are identified by their initials, placed at the start of their remarks. Conversational sounds and verbal outputs that are not words are placed in parentheses; peripheral and editorial notes, and questions, are placed in brackets; words spoken with emphasis appear in italics.

Interviewee has made some amendments to the text and these are noted with brackets.

[00:00:00]

Laura Hoff: Today's date is December 4th, 2019. We're here, in Boulder, at the Mesa Laboratory, with David Waltman and Jerry Meehl.

JM: Thanks. So, Dave, you're from Indiana; you're a Hoosier.

DW: Not exactly. (Laughter.) I actually am *not* from Indiana.

JM: Oh, yeah?

DW: But I went to school in Indiana.

JM: Oh, okay.

[00:00:21]

DW: I was born in St. Louis, and spent a few years as a St. Louis suburbanite. And then we moved to the Chicago area, and I was a Chicago suburbanite. My brother had gone to Purdue University and eventually got a PhD in "double E" [Electrical Engineering] from Purdue. When I graduated from high school, I didn't know what I was doing, and just blindly followed in my brother's footsteps and went to Purdue, also. My father was an engineer, also, and he *was* a native Hoosier; he was from Terre Haute, and was double E from Rose Poly [Rose-Hulman Institute of Technology], in Terre Haute. A small engineering school.

Like I said, I didn't know what I was doing, and went to Purdue—had a couple of scholarships to Purdue, for engineering. But I did not take to engineering. So, after a year-and-a-half, I transferred to Indiana University, in Bloomington, Indiana. So I graduated from IU in 1962, with a bachelor's degree in business.

And then, after I finished school, in '62, I went back to the Chicago area. And I worked in the Chicago area for a couple years, in retailing. I worked for a large department store, in Chicago, called Marshall Field and Company, which was very renowned—I think they eventually were bought out by Macy's. So I was there a couple of years, working in downtown Chicago—with the exception of six months of active-duty in the Army. I joined the Army Reserves and was initially a truck driver, and later on became a medic, and was eventually discharged after six years as a medic, a sergeant in the Army.

[00:02:32]

JM: So you were, kind of, right before the Vietnam War era.

DW: I was, yeah, '62. But later on, when I moved to Colorado, I continued in the Reserves and became a medic and had most of my time at Fitzsimons Hospital, which was loaded with Vietnam wounded.

JM: Luckily, you didn't get called up to go over to Vietnam.

DW: That was fortunate. (Light laugh from interviewer.)

JM: Because, you could have been. Right?

DW: Yeah. To say "that was fortunate" is an understatement, especially if you have the image of all those wounded people. In war-time experience, as you know, the number of casualties is many times the number—I mean, the number of injuries is many times the number of deaths. So, the people that were wounded in Vietnam, would first be flown to the Philippines, and then they'd be on a big air-vac plane from the Philippines to Buckley airfield. And then come over, by ambulance or buses, to Fitzsimons. And so, sometimes the people that came into Fitzsimons had been on the battlefield, like, only two or three days before. They'd get there so fast. Anyway, so that was my Army experience.

[00:04:04]

But then, during the two years I was in the Chicago area, in 1963, I had a vacation trip to Colorado, with a friend of mine. Obviously—at least for me, who was kind of an outdoors person—the difference between being in downtown Chicago, and being in a place like Colorado—Colorado was very appealing. I'd come here in the summer of '63; but then, that fall or winter—I guess it was in the winter—I was called to jury duty in downtown Chicago. So, on jury duty, I did not get on a case; I was just sitting there for two weeks, with nothing to do. And while I was sitting there, I was reflecting on my life in Chicago, and remembering my vacation trip to Colorado. And about halfway through my two weeks of jury duty, I thought: I'm gonna move to Colorado.

On a lunch break from jury duty, I walked across town to my boss, and told him that I was going to quit. I was going to move to Colorado. And he said: "Do you have a job there?" And I said, "No." And he said: "You're crazy!" Because, he thought I had a really promising future in that company. I was in what was called an "Executive Development Program," and I was supposed to be on some sort of a career track, to have a successful career there. But, I knew what I was doing. (Narrator and interviewer both laugh.) And I did the right thing.

So, in January of 1964, I drove to Colorado, in my VW bug.

[00:06:09]

JM: In January?

DW: In January. (Interviewer chuckles.) Yeah, right. I had a friend who lived in Denver; he was the city engineer for—or, maybe assistant city engineer, something like that—for the City of

Aurora. He said I could just move in with him. In those days, 1964, Denver was an incredibly smaller place. And it was really hard to find a job, in Denver. Coors Brewery was a big employer; but I heard that Coors was pretty hard to get a job at. Any good job, it was either relatives or friends of the Coors family. And then, Samsonite Luggage was another big employer, but I don't think I even tried to apply there. And Gates Rubber Company was another big employer.

It was a few weeks before I got a job, but I did work for Gates Rubber Company. And then, I really wanted to be in Colorado, but they sent me to California. (Background laughter.) And so, I went to California—based in Sacramento—and that was pretty unsatisfactory. So, after a while, I quit there.

And then I came back to Denver and got a job at the CU Medical Center. And I really liked working at the CU Medical Center. Wonderful bunch of people, there, doing good things. Not only patient care, but also wonderful research. They were really pioneers in kidney transplants. So it was a great place to work, and I made some friends and did some fun things. I was one of the founders of the CU Medical Center Ski and Outing Club, and helped to organize ski trips. Just, really, had a great time. But the pay at the CU Medical Center was really poor. So I—

JM: Because, you're a state employee there, right?

DW: I was a state employee. And, the only real good perk was that I got season tickets to CU football games, at a really good price. I went to all the CU football games; came up from Denver. And that was my first real familiarity with Boulder, was coming to Boulder for football games.

[00:08:55]

So, somewhere along the line, I decided I needed to make more money, than work for CU Medical Center, even though I loved the CU Medical Center. So, I took a job at the City and County of Denver, and worked in the City and County Building in downtown Denver. My office was right across the hall from the mayor's office. I was only there about six months, and I was very unhappy there. There was a lot of corruption there, and I made a decision there—when I was faced with corruption, and people were trying to bring me into it—that I wasn't gonna do that. That just wasn't for me. And that was sort of a lifelong decision. Because, from that moment on—when I was, like, twenty-seven years old—I decided I wasn't gonna be a crook! (Laughter.) And I stuck with that for the rest of my life.

So anyway, I was really miserable there.

JM: So, at that job, you're working with the books, there?

DW: I was in the Purchasing department.

JM: Purchasing department.

DW: And, I had pressure from all different directions, to throw business to contributors to the mayor's campaign. I was offered bribes, on the one hand, and threats on the other hand. And I

was just—it was just awful. I was so stressed by this environment, that I was having migraine attacks, a lot. I just had to get out of there.

[00:10:50]

So, I was looking for another job, and I saw an ad in the *Denver Post* for a job at the National Center for Atmospheric Research. This was in 1966 and I had never heard of the National Center for Atmospheric Research. NCAR is pretty renowned, now. But in those days, it was not. And even though I was living in Denver, just a few miles away, and coming to football games up here—I had never heard of NCAR. And this building was not open, either. So, you know, the building itself is famous. But it wasn't famous, then, and it was a small place.

I had a friend who was a salesman and worked for Van Waters & Rogers, which was a lab supply company—lab supplies and lab equipment. He was a good friend of mine. And, I ran onto him, and I said: "I'm looking for another job. Have you ever heard of NCAR?" I said, "Do you call on them?" And he said he *did* call on them, but he didn't have a lot of business there, most of his business was at the big hospitals and the Medical Center, where I met him, in Denver. But he was familiar with NCAR. But the reason he was so familiar with it, he said, "My cousin works there." My friend's name was Howard Price, and his cousin worked here; his name was Alan Price. And he said: "My cousin's a machinist, and he said it's a great place to work. He loves it there." And, he said, "And one of the things that happened to him, he got to take a trip to Antarctica; he went to Antarctica with an atmospheric chemist." I remember his name was Bill Fisher, used to work here. He was just here a short time, when I was working, and then they—I think they cut back the Atmospheric Chemistry program, here, and Bill Fisher ended up going away; I think he ended up at CU.

[00:12:52]

So, as you know, sometimes machinists, and people like that, went on some of these expeditions. Especially, the HAO machine shop people would go on expeditions for solar eclipses, to far corners of the world, because they had built instruments that would then have to be reconstructed in the field. And that was the case with this guy, Alan Price. So that really perked me up. I thought, this isn't just *any* place, this is some place that they're really raving about.

So, I interviewed here. And when I interviewed, this building was under construction. I mean, the exterior was all done, but I had never seen it. And when I interviewed for the job, I interviewed at a CU building, where NCAR had some rented space, down at 30th Street, across from Scott Carpenter Park. A really dumpy building. And, during the interview, one of the people that interviewed me said: "You probably noticed the building, up on the Mesa, that's gonna be the new building for us." I had no idea; I had not seen it, I had not noticed, and I had no idea. So, I didn't take the job because of the building; I just took the job because it seemed like a good job, with a good employer.

So, that was August 1st of 1966.

JM: So, who hired you?

DW: I think it was a guy—

JM: It wasn't the director?

DW: No, I think the hiring person was head of Procurement; I was a buyer. I think it was Landis Parsons and Bob Greenwald, were involved in the hiring, and the interviewing, as I recall. So that's how I started out. So that's how I ended up at NCAR, and that was August 1st of 1966.

[00:14:52]

JM: So then, where was your office, then? Was it down on 30th Street?

DW: Yeah, it was down 30th Street. The University had two buildings that were about identical, across the parking lot, called PSRB-1 and PSRB-2. PSRB is Physical Sciences Research Building, one and two. Like I said, they were really dumpy buildings.

JM: Because, for a while, some of the NCAR scientists were up on campus, in Cockerell, or one of the dorms.

DW: Oh, yeah. Right. And, of course, HAO was down there, on the campus.

JM: Yeah, they were on the campus. (Narrator is making affirmative sounds.) So then, shortly, you moved up here, then. Right?

DW: Yeah. Started here August 1st.

JM: '66.

DW: And this building opened in October.

JM: Oh. In '67, is when you started?

DW: No, it was '66, '66. So, it was just two months later—from when I was hired, and working in a dumpy building downtown—that we moved up to *this* building. Moving up to this building, obviously, the exterior looks essentially identical to the way it looks now. But the grounds were a mess, because of all the construction. All the grass, and probably a number of the trees, had been destroyed. And it was October, so the weather was sometimes wet. And so, it was muddy; there was mud everywhere. I mean, you could hardly walk from the parking lot to the building, on the sidewalk, without getting mud on your shoes. So it was a mess. But the building was incredible.

[00:16:35]

JM: Where was your office, then?

DW: My first office was down on the first floor, in Tower A, at the very west end. So, my office window looked right back on the Mesa. I mean, I can remember—just very early on—I looked out the window, and there was a coyote with a couple of pups. It was just amazing. And, of course, we'd see deer all the time, and that was really exciting. People would always be talking about the deer: "Oh! I saw seventeen deer on the ride up this morning!" (Interviewer is

chuckling.) So, this setting was just amazing. And it was thrilling to come to this building. But the thing is: I've been here fifty-three years, and I'm thrilled to be in this building *every single day*. It never gets old, for me. The setting and the proximity is so great, that, since I'm an outdoors person, I've spent so many lunch hours going up the mesa to the west, and going to the Mesa Trail, and going down to Skunk Creek Canyon; or going the other way, down towards Bear Peak. I've just spent so many hours on these grounds, here.

And then: I've been in a number of different offices; but, probably, more than any other one, I was on the fifth floor, in the director's office, with an office that looked to the northwest, with a window that was wall to wall, and floor to ceiling, looking over the Flatirons. I mean, it's like dying and going to heaven! (Interviewer laughs.) It's just really great. People would always—that would visit, and come into the office—would say: "I don't see how you get any work done!" (Laughter.)

[00:18:23]

JM: So, you started out as a buyer—

DW: Yeah.

JM: Working for Landis?

DW: Yeah, I did. Right.

JM: But, at some point, you got into the budget side of things.

DW: Yeah. I was in Procurement for ten years. I was a buyer, and then the head of the Purchasing Department, my boss, suddenly got fired, and then they made me the head of the Purchasing Department. So I was the purchasing supervisor, and I was there a little while. And then, it really didn't suit me. I'm a worker, rather than a manager. I really don't like supervising a bunch of people. So, I wasn't very happy there.

So, I had the opportunity to bail out of being the head of the Purchasing Department, after a while, and became a contracts administrator—still Procurement, but more exotic procurement—and was a contracts administrator. And then, at some point, got promoted and became what they called "Contract Supervisor." So I was the head of the Contracts Office and had other contracts administrators, and a secretary, working for me. But supervising these people was not as troublesome as supervising the buyers and the secretaries, down in the Purchasing Department. So that was pretty good.

JM: And that was when you were up on the fifth floor?

DW: No, The Contracts Office was variously on 30th Street, in the Colorado Building in downtown Boulder, and on the 2nd Floor of Tower A. [Amended from audio version.]

JM: That was part of the director's office, then?

DW: I wasn't in the Director's Office until I joined the Budget and Planning Office in 1976.
[Amended from audio version.]

[00:20:10]

DW: We did have some other moves, though. The rapid increase in staff in the early years meant we had to have more space off the Mesa, in rented space in downtown Boulder. This building—when I started here, in 1966, I think the number of employees was only about 350. If you can imagine that. So, it was a small place. I mean, you really know a lot of people. When I was in school, there were fraternities that had over a hundred people; so, just think, 350 people is like three or four fraternity houses, is all! So, almost everyone worked here in this building, initially, except for HAO, that had their own building down on the campus. And they really didn't mix with the rest of us, very much, anyway. And the aviation facility out at Jeffco—we had an aviation facility, in those days. We had Queen Airs, I think, initially. So, small aircraft.

[00:21:09]

JM: So you were procuring and doing contracts for the field projects, then, right?

DW: Yeah, I did. Yeah. Actually, in the Purchasing Department, there was a huge field program going on—in the early days, in the '60s—that was called the "Line Islands Experiment."

JM: Yeah, Rol Madden was on that.

DW: Yeah. And, the Line Islands project—or, field program, was—you know the Line Islands? [Cross talk.] Palmyra, in the South Pacific, way south of Hawaii. And, it was a *big* program. And we had a *lot* of procurement. We even contracted for a PBV to participate in the experiment, which they dubbed the "Leaky Tiki." You know, this big sea plane.

JM: From the Navy?

DW: I don't know where we got that plane. I think somebody had picked it up—military surplus, or something. And it was privately owned. And I think we just contracted with some character who had this PBV. But there were a lot of procurements involved. And in those days—in the 1960s—the NCAR staff had a lot of retired military. A lot of retired Navy—captains, and so on—and Army and Air Force colonels, and lieutenant colonels, and majors. I mean, if these people were wearing uniforms, and you were an enlisted man, you'd be saluting all day long.

But some of those people—some of them had backgrounds in Air Weather Service and things of that nature, so they had a meteorology background. But other people that they had here were military people that were good at logistics. And, as you well know, in military operations, logistics is everything. And so, some of these people—to go to a remote place like the Line Islands—you gotta have a place for people to live, for people to get food and water, and all the necessities of life. And medical care if they need it, in a remote place like that. So we had people here, that were on board, that were good at that.

[00:23:32]

JM: So, who were you mainly working with, on that project?

DW: I was just buying stuff.

JM: Somebody would tell you: "We need this"—

DW: Yeah, exactly. We'd just get requisitions to buy stuff. So I never went there. But later on, I actually was out many times, in many different field projects, traveling *to* the field, to set up arrangements. To get permission to use land, or to put instruments on land, or various other things.

JM: So, you didn't even get as far as Hawaii, to contract the PBY?

DW: No, I didn't. I always seemed to go in another direction. I was involved in field programs here in the States, and then I ended up doing some work on field programs in South America and also in Africa. But, my boss had a passion for the Pacific—Landis Parsons—so, whenever there was anything going on in the Pacific, he always took those trips. (Interviewer chuckles.) So, when I was going to Ghana, he was going to Samoa.

JM: Okay. That was for TWERLE.

DW: Yeah.

JM: The TWERLE project.

DW: Exactly right, yeah.

JM: Okay. So, he'd set up the stuff in Samoa, for the building and everything else, and you did the one in Accra, in Ghana.

DW: I did. Right, right.

JM: Because, I think they built the same building in each location, right? Or did you build the building in—

DW: I think that's probably true. Since I went to Africa a couple of times, I was very familiar with that. And I didn't have too much familiarity with Pago Pago and Ascension Island. But, I was probably the one that wrote the purchase order for the buildings. I think I did. They were Butler buildings, pre-fab metal, steel buildings. And they put them on some kind of barges, and took them by ship to these locations, and then hired contractors to construct the buildings. I'm pretty sure the buildings shipped out of Houston. I think the source of the buildings was either in Houston or someplace in Texas.

[00:25:48]

JM: You had access to the MAC flights—Military Airlift Command flights—a lot, right? You shipped a lot of stuff on the military flights.

DW: That may be. I don't remember.

JM: We'd go out there, and the MAC flight would come down from Honolulu and stop in Pago, and it would be going down to New Zealand or somewhere. And if we had stuff to ship out, we'd have it in these cases, and the military guys were there, and it would be C-140s, and they'd open up the back doors and throw stuff in there [narrator is agreeing]. But that was always a connection, somehow. I don't know how NCAR made that connection to the military. They used to use—in MONEX, we used military.

DW: Well, like I said: we had so many retired military people on board, I wouldn't be surprised if they had some connection. Or, just through the National Science Foundation, they may have made some connection.

JM: But it never even occurred to me, at the time, that this was kind of odd, that NCAR was using military airplanes to haul their stuff around. But they were [narrator is agreeing]. They even chartered a C-130—several C-130s, actually—to fly stuff down to Bintulu, in Borneo, from Clark Air Force Base. I don't know who arranged that; I don't know if you were in on that, at all?

DW: No.

JM: So you never had to deal with the military?

[00:27:02]

DW: Uhhh, not at all. Actually, some of the management of NCAR—strangely enough—were sort of anti-military. Just as an aside, John Firor was director of NCAR for quite a while. And even though he had been an enlisted man in the Army, way back—he was a lot older than I was—he seemed to have a really negative attitude towards the military. An example I'll give of that was that: there was a time when I was temporarily called "Assistant Director," of NCAR. And John Firor was the director. Somebody from DARPA, from the Pentagon, wanted to come out here and talk to us. And, John didn't want to talk to him. So he had *me* talk to him. This guy—he was a colonel—and he came out, and he talked to me. And he wanted to involve us in email. Email was a novel thing; nobody had even heard of it. But the military was getting into it. DARPA is the (thinking) Defense "something" Project. [Defense Advanced Research Projects Agency]

JM: They do projects.

DW: Yeah, right. But it's some part of the Pentagon. So, I talked to this guy, and I was real excited. I thought: "Boy, this sounds really cool. We ought to get into this." And, it wasn't a military activity, at all. It was just using technology that the military was developing. So, I talked to this colonel, and he talked about it, and I said, "I'll get back to you." And then I talked to John Firor, who was the director of NCAR, and I said: "You know, I think we really ought to get into this." And John just turned it off. He said "No." He says, "We're NCAR. We don't have anything to do with the military, and we're not *gonna* have anything to do with the military." And that was

the end of that. And it turned out, ultimately, email turned out to be a pretty good idea!
(Laughter.)

[00:29:19]

JM: In the end, right. So you were working pretty closely with whoever was director, at that point.

DW: Yeah. Right.

JM: So, you worked with John Firor—you must have worked with Walt Roberts, at some point, then, right?

DW: Yeah. Walt, when I started, was UCAR president *and* NCAR director simultaneously. I was kind of a low-level person, but I had some dealings with him. And then, over the years—for years and years to come—I had many, many lunches with Walt at the lunch table. So I knew Walt early on, in the 1960s. And then, I knew him in his latter days; I had many lunches with him, when he'd been diagnosed with melanoma. Which eventually proved terminal, for him. Yeah.

JM: So then, it was Walt, and then it was John Firor—he was around for a long time.

DW: Yeah, right.

JM: And then it was, what, Francis was—

DW: Maybe Francis Bretherton? Yeah, it was.

JM: So, how did you get along with Francis?

DW: Ummm. Pretty well. You knew Francis well, because he was your division director.

JM: Well, he was head of everything, at one time or another.

DW: Yeah, right. Yeah, Francis and I got along real well. But, he was an unusual person (interviewer laughs), to say the least. A very unusual person. But he was, you know, had astronomical intelligence, I think.

JM: Yeah, yeah.

[00:31:08]

DW: But he was really quirky. He was very loud. (Light laugh from interviewer). If you were in the cafeteria, and he was at the far end of the cafeteria, you could hear everything he said! (Background laughing.) I mean, even though he was talking to somebody across the table, everybody across the whole room could hear him, because he was so loud. (Interviewer laughs and says "That's right!"). He was a really funny guy.

JM: Yeah. But you worked well with him, I guess. Because he had conflicts and issues with some of the scientists, over the years. But from the admin side, he was okay to work with?

DW: Yeah. Oh yeah, he was fine. He actually asked me to do some special projects, now and then.

JM: Oh, really?

DW: Yeah.

JM: And then there was Bill Hess, right? He was in there somewhere.

DW: Yeah, right. Yeah.

JM: So, how was he to work with?

DW: Ummm. I didn't—actually, before Bill Hess, it must have been Rick Anthes, being director.

JM: No, no. It was after. That was the coup; that's what I was gonna ask about.

DW: Ooooooh, yeah. Okay. Right. Yeah, right. You're right. I didn't have an affinity with Bill Hess. Bill Hess was my boss. As a matter of fact, during the time that Bill Hess was director of NCAR, the director of Budget and Planning left for another job. And I became acting director of Budget and Planning, which I was for several months. So then, Bill Hess, the director of NCAR, was my direct boss, and my office was right outside his door. But, I just didn't have an affinity with him, like I did with some of the other directors.

[00:32:54]

JM: So, were you aware of the palace coup that took place?

DW: I was. Yeah.

JM: So, what did you hear about that?

DW: Well, you could just smell it, you know. Some of the division directors didn't like Bill Hess, to say the least. And some of the Board of Trustees were in on it, too. They were working on a plan to throw him out. I remember, I went to a party in Wonderland Hill, and one of the people at the party was a member of the UCAR Board of Trustees. And, I remember being in the kitchen, and I'd had a little bit to drink—and maybe he had, too—but whatever, he knew I worked directly for Bill Hess. And, he started pumping me for information about Bill Hess. I guess, trying to get dirt, or something like that. Which I didn't bite on. I just didn't want to participate in that. But I knew something was going on. So, eventually he got removed.

JM: Right. And that's when Anthes came in, right?

DW: Yeah, right.

JM: Did you like him better than Bill?

DW: (Chuckles.) No comparison! I had a great relationship with Rick Anthes, as NCAR director. And then, later on, he became UCAR president, for a long, long time. And I got along really well with Rick. Played tennis with him, from time to time. Went to parties at his house. And had a really good working relationship with him. And when he left being NCAR director, and became UCAR president, my phone would ring, from time to time, with him as UCAR president, asking me to do various analyses, for him as UCAR president.

[00:35:10]

JM: So, what was your job, then, when Anthes was director?

DW: I was a budget analyst.

JM: Budget analyst. So, at some point, you transitioned to budget analyst.

DW: Correct. Yeah.

JM: When did that happen, roughly?

DW: That was in 1976. So, ten years in procurement, and then I had sixteen years in the director's office. In early 1976, my tenth and last year in procurement, I was given a special assignment by NCAR Director John Firor. He asked me to do a study of Social Security and alternatives for UCAR. I took leave from my duties as Contracts Supervisor and conducted the study and produced a document for all UCAR staff called Information on Social Security and Alternatives for UCAR, March 1976. The purpose of the document was to prepare the staff for a survey to assess staff sentiment for dropping out of Social Security and investing in alternatives. I conducted the staff survey which led to the UCAR management decision to remain in the Social Security program. [Amended from audio version.]

JM: After ten years I procurement, you became a Budget Analyst?

DW: Yes, a budget analyst—or, part of the time, as acting director of Budget and Planning.

JM: So, you had to—you kind of picked this up, right? Because your bachelor's degree was just a business degree, right?

DW: Correct. I mean, everything was, pretty much, on-the-job training. When I was in Procurement, I had done an analysis of "buy versus rent" for a super computer. I think it might have been the CDC 7600. We had acquired the CDC 7600, and we were renting it. But in the contract, it had a way to calculate, at any given time, if you wanted to buy it. You'd come up with some amount of cash, and you'd own it. And, I did an analysis of "buy" versus "continue to rent." And I was working in connection with the Budget Office that I was *not* a part of, at that time, but Steve Dickson was. So, I concluded—with this analysis that I wrote up—that it was really to our advantage, financially, to buy the 7600, and not just keep renting it. And we had to

come up with some money to do it. I think we had to come up with, like, 1.6 million dollars, or something. So, it wasn't trivial. But somehow the people in the Budget Office—maybe with help from NSF—figured out how to come up with the money, and we did that.

[00:37:10]

But, the interesting thing was: because I had done this analysis while I was a contract administrator, working across town at that time—I moved away from the Mesa, from time to time, back and forth—that eventually led, sometime later, to them wanting to hire me into the Budget Office. Because they had seen that I could do financial analysis. So, that's—

JM: You just kind of picked that up?

DW: Yeah. On-the-job training.

JM: So, that set the precedent. Because, I think NCAR has—ever since then—bought every single super computer, right?

DW: That's true. Yeah, that's true.

JM: So, that started with your analysis.

DW: [Cross talk] Then we got into the Cray computers. It was a better deal.

JM: So, did you ever have to deal with Seymour Cray, or any of those people?

DW: I never met Seymour, but I did meet John Rollwagen. John Rollwagen was the CEO of Cray. And maybe he'd previously been with Control Data. But, I never met Seymour.

JM: So, you were dealing with him on buying the Cray?

DW: Yeah, right. Yeah. I negotiated the contract for, hmmm, maybe the CDC 7600, and maybe the Cray-1. It's hard to remember.

JM: Hmmm. And then, once that was kind of set up, then, it just became next-generation; you just keep doing the same procurement process?

DW: Yeah, right. Yeah.

[00:38:49]

JM: But you weren't involved with actually figuring out where the money was coming from; because, they had to float [?] bonds, and make these decisions on raising money.

DW: Yeah, right. Yeah, that was a big deal. I remember: we eventually got into this business of having tax-exempt bond issues, for acquiring equipment. And Cliff Murino was UCAR president at the time that happened. And he, somehow, persuaded NSF that we could do that. Which was really a shock to me. Because, as a government contractor, interest is an unallowable cost. So,

what that means is: you could never borrow money to buy anything. You have to have the cash. And so, that rule that's in the procurement regulations—that said interest was not allowed [?—was somehow, suddenly broken. And I remember being back in D.C., one time, and talking to the contracting officer, Aaron Asrael, and I said: "What's going on, here? How can we get into issuing a bond issue? These people must be crazy! It's an unallowable cost, to pay interest." And I remember, Aaron said: "You know, if enough people in high places want to do something, they can make it happen." (Interviewer laughs.) And that's proven to be true.

JM: (Laughing.) So, somehow, somebody made it happen.

DW: I still don't, to this day, know how it happened. But we've been issuing bond issues—tax exempt bonds—for millions of dollars, ever since.

JM: Yeah, right. Ever since. That's become, kind of, the way that they raise money. In fact, they're talking about it again, now, for building refurbishments and things like that. Where the money's gonna come from. I mean, this is always the question, right? And a budget analyst, you're trying to give them advice, at some point, right?

DW: Yeah, right. Yeah.

[00:40:43]

JM: So, you were working for Anthes for quite a while. And you're doing this budget analysis stuff. Were you still doing field project stuff, then? Or you were doing higher-level stuff?

DW: When I was in the Budget Office, I didn't have anything to do with field programs. When I was involved in field activities was when I was a contract administrator.

JM: Contracts. That was before—

DW: And then I was involved in several.

JM: So, you were in TWERLE.

DW: Yeah, right.

JM: Where else did you go, on field projects?

DW: I did some around the States, relatively small things, where we would go to a small airport, or to a farmer, or whatever, and have an agreement to use their property or to put equipment on their property, and things of that nature. One that I did was—TWERLE was one of the more involved ones, where I went to Ghana, twice. But another one I did is: I went to the French Space Center, in Kourou, French Guiana, which is on the northeast coast of South America. And went down there.

JM: That was the carrier balloon project, right?

[00:42:08]

DW: Yeah, I think so. So I went there with Brewster Rickel, who worked for Vin Lally. And Brewster had lived in New Zealand for a while, I believe, launching GHOST balloons. So, we wanted to launch balloons from near the equator, in Kourou, French Guiana. So I went down there with Brewster. And that was an interesting trip. The French had this space center; they thought they were gonna be big in the space business, you know. Like the U.S. and the Russians. And so, they had this space center that they built down there. And, the interesting thing was that: the French liked to live well. So, Kourou was on the coast, and they had a beautiful beach there. And I could see—from the shore—I could see Isle Diablo, Devil's Island, which was the prison for the French. And it was a place where you could put prisoners, on this Island. There's a book about it—which I read—and a movie called *Papillon*, with Dusty Hoffman and Steve McQueen. And, I could see that island off shore. So it was a really interesting place.

And they had really nice lodging, there. And they had sailboats, and they had tennis courts. They had the engineers design a special surface for the tennis court; you know, they were space engineers, after all. But it rained so much, there, that they had to have something that would drain. And me, being a tennis player—I was on the tennis team when I was in high school, and played in tournaments here—that, if you have an asphalt tennis court, and it rains, there's puddles. So they designed a tennis court that was porous. And if it poured down rain, it would rain, like, four inches an hour, or so. Just torrential downpours. And as soon as the rain stopped, you could play tennis. Because it would just drain. And I played tennis, down there.

[00:44:32]

They had the most wonderful food, and wine. So, the French just really lived well. But they really didn't get into the space business. They'd build all this stuff, and then they decided that they just couldn't afford to be into space—it was just too much money. So they didn't get into it. But, when we were there, trying to use their facilities, they were trying to figure out what to do with the facilities. So they wanted to provide services to us, and get our money.

JM: So, you're negotiating for people to be there, and equipment to be there?

DW: Yeah. Hangar space for a staging area. And some support, like meteorological support, to tell us what the weather was gonna be at the time of launch. When we got home, they sent us a proposal. And it was just astronomical. I mean, they wanted to charge us for everything under the sun. And we wanted really minimal support.

But, I had a thrilling experience when I was there: I arrived, and probably had at least a day in their village—playing tennis, and eating well before we ever went to the Space Center. The Space Center was, like, maybe a few miles away. So, the first day we went to the Space Center, to see what facilities were there. My French host drove me out to the Space Center, we got to the main entrance. And I looked up at the main entrance; and at the main entrance there was a French flag flying, up there. And next to the French flag was an American flag. And I said, "My god! There's an American flag flying there. Why is that?" And my French host looked at me, and he said: "For you." I felt like I had just won the gold medal at the Olympics! (Big laughter.) They'd flown an American flag, for me! (Background laughter.) But they're not so dumb, you know. They probably have flags for every country in the world.

[00:46:45]

JM: Well, they figured they may make some income from you.

DW: Yeah, that's right! It's kind of like playing to Trump, you know. You just kiss up. (Chuckling.)

JM: So, did that project every happen?

DW: I think it did. But if we did, it was for very minimal support from them, much to their disappointment. Because they didn't get much money out of it. I mean, we took their proposal and just drew lines through ninety percent of the stuff that they wanted to provide for us.

JM: So, did you have to work with Marcel Verstraete at all, in keeping that New Zealand operation going?

DW: I remember, early on, in the 1960s—when I was a buyer in the Purchasing Department—there would be things that would be purchased, that were being sent to Marcel, in Christchurch, New Zealand. Marcel is probably the only person who's on the NCAR payroll, currently, for more years than me. Because I'm still on the NCAR payroll; fifty-three years. But he's, like, three years more than that.

JM: Yeah. He's fifty-six, I think.

DW: Yeah, right. Something like that.

JM: And he's still an FTE, which is astounding.
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DW: Yeah. I worked thirty-four years full time. But I retired in—well, almost 2001. After that I've been eighteen or nineteen years as a "Casual," working for Marla Meehl.

JM: Rick Anthes was still UCAR president when you retired. And who was NCAR director, when you retired?

DW: Uhhh. I think I can't remember. Oh, let's see. I was gonna say Bob Serafin, but I'm not sure.

[00:48:33]

JM: Okay. So, kind of, what triggered your retirement?

DW: It was kind of like: enough is enough. I had worked sixteen years in the director's office. And then I left the director's office and became Facilities Administrator.

JM: Oh. So you were Facilities Administrator?

DW: Yeah. For eight years.

JM: Wow.

DW: And that's what I retired from.

JM: So you were for Jeffco, and New Zealand—or, New Zealand wasn't running at that time, was it?

DW: I was Facilities Administrator, meaning Plant Facilities: the building maintenance, and all that kind of stuff. Construction and maintenance. Handling the financial stuff for them. It was just kind of like: I'd just had enough. That's why I retired. Actually, there were various people in that group who didn't like each other. And I tried to be the mild-mannered mediator, and say, "You know, this person is really not a bad person; you ought to get to know that person." But, there were people who just wanted to kill each other. (Interviewer chuckles.) So, it was a little bit like when I left the City and County of Boulder; it was just an environment where I didn't want to be, anymore.

JM: You mean, City and County of Denver? Or Boulder?

DW: I meant City and County of Denver. Just—I didn't like the environment. I was tired of it.

JM: Huh. That's interesting. But then you somehow got—you got involved, pretty soon after you retired, in this other activity, right?

[00:50:19]

DW: Yeah. Almost immediately. I had been retired for a month or so, and I said to my wife, I said: "You know, I don't need to not be working *all* the time. (Background laughter.) But it's nice to have *more* free time, and not work full time. But I wouldn't mind working *some*." And almost at that very moment, I got an email from Marla Meehl—who I'd worked with—and said, "How'd you like to do this part-time job?" And I said, "Yeah, I'll do that." And I've been doing that for, like, nineteen years.

JM: Well, that's the FRGP, right?

DW: Yeah, right.

JM: The Front Range GigaPop.

DW: Front Range GigaPop, yeah.

JM: You started it, basically, right?

DW: I was in on the ground floor, with the Front Range GigaPop. Basically, UCAR contracts with a bunch of organizations for various bandwidth services, and then parcels it out to other institutions. And, originally, it was only like eight or nine: CU Boulder, CSU, University of Wyoming, School of Mines. Some of those. NOAA, and some of those. Just a few biggies. But no two customers are the same. And so they have complicated services, they get. So we had to

figure out how to charge them appropriately. We couldn't just charge them all the same, because they were getting different services. So, I was involved in these agreements—five-year agreements—that would describe how they were gonna be charged. And then my job was, every month, to figure out the billing to these people, which is very complicated. And that's what I've been doing for, like, nineteen years, every month. Never missed a single month!

[00:52:26]

JM: Wow!

DW: I mean, due to sickness, or travel, or whatever. I always cranked out those invoices. So we invoice out, about, roughly two-and-a-half-million dollars a year. So it's significant money.

JM: Yeah. Money changes hands.

DW: And instead of having eight or nine participants in the Front Range GigaPop, we have, like, about thirty-three or thirty-four, now. And, a lot of universities from all around. And other institutions, and school districts, and the City and County of Boulder.

JM: So you had to figure out how to bill them, basically.

DW: Exactly.

JM: And, how that fit into UCAR, and everything else?

DW: Yeah. So, it ends up with an Excel workbook that has many spreadsheets linked together. And thousands and thousands of cells of data, to do all these calculations. So, it's very complicated. So I've just—so, this past month is the first month that I haven't done it, in nineteen years. So I'm just trying to help with the transition, to teach somebody else how to do this. Which is driving somebody else crazy. (Background chuckling.)

JM: Yeah, right! (Laughs.) After doing it that long, you know how it all works—

DW: Yeah, right.

JM: In great detail.

DW: Yeah, right.

JM: So, did that—was there issues with that, like, fitting into NCAR and UCAR? Because, there's a lot of money changing hands, there, right?

DW: Right.

JM: Did you get involved with any of those negotiations?

[00:53:56]

DW: Ummm, to some extent. I think UCAR is just concerned that we cover all costs, that we're not subsidizing these people. So, the trick with this billing is to attempt to bill out exactly the amount that we're spending, so it's "no loss, no gain." And then you may wonder, then: if it's "no loss, no gain," why does UCAR do this? And we do earn some UCAR fee, but that's—and overhead—but it's advantageous for everyone to do this. If all thirty-three participants—including UCAR—went out and tried to buy these services, the sum of all they would spend would be far more than us buying things by the big gob, and then parceling out to other people.

JM: So you're buying, basically, space on fiber-optic cables, right?

DW: Yeah, right. Yeah.

JM: It's basically: as a group, you have a consortium of people that can, with their buying power, they can just make a deal, a better deal with the vendors.

DW: Yeah, exactly. And then we have all these network engineer geniuses that figure out how to connect people and parcel it all out. They're really smart engineers; really good people.

[00:55:31]

JM: So, you were billing the participants; did you ever have to deal with the vendors who you were buying the services from?

DW: No. Somebody else does that.

JM: Somebody else did that. Okay. Because, that's another big part of this, right?

DW: Absolutely.

JM: Because, you're dealing with these big telecommunications companies who own all these fiber cables all over the place.

DW: Your brilliant wife figures out all that stuff. (Background laughter.) Along with the network engineers, and Susan Guastella.

JM: That will be in her oral history, at some point. Because that's a big part of this.

DW: You know, we have this system at NCAR, where: when you have a purchase requisition, at different dollar levels, it has to go higher and higher up. So, some of these purchases are so big, they have to go to the director of NCAR to approve. And, I suspect the director of NCAR has no idea what he's signing. (Laughing.) He just has to have faith!

JM: Well, and I think that's the challenge, as you get new administrators at the high levels, and then you've gotta explain it to them. Because I know she spends a lot of time trying to—because, they're going: "Well, what's this?" And then you have to go in there and explain why it should be done.

JM: So, there's a note here about the "Communications Pool." Something I don't know anything about.

[00:56:45]

DW: Yeah. That's how I really got to know Marla well, before I retired from full-time work. While I was working in Facilities—as an administrator, budget analyst, accountant sort of a person—UCAR had a complete change in its accounting system. It was really profound. They call it the "full-cost accounting" system. So, they want to make sure that when we charge other people—like, if you have a contract with DOE, for example, for CO2 effects, that we charge for all direct and indirect costs that UCAR incurs.—

JM: Just as a random example.

DW: Yeah, just as a random example (laughter) that you know something about. That, when you write a proposal, that you're getting every dime paid to UCAR, for what we're doing. And so, it required a major change for our accounting system to do that. And so, they had all these different "cost pools." And one of these cost pools was called the Communications Pool. And that involved figuring out how to charge for various services, including networking, and telecom, and things of that nature. So, I had to figure out a system for figuring out what those costs are. And then, creating a budget for that every year. And Marla was involved in that.

JM: Mm. So that was the connection, there, that led to the FRGP job, that led to another nineteen years.

DW: That's exactly right. Yeah. You know, one thing leads to another.

JM: Yeah. One thing leads to another.

DW: It's kind of like: every one of my jobs, here, always led to another job. Because, somebody where the next job was, was aware of what I was doing in a previous job, and said: "I think he can do that."

JM: And you were picking this up—on-the-job training, right?

[00:59:08]

DW: Yeah, right. And, I did—you know, when I started here, I had a bachelor's degree in business from IU. But, while I was a contract administrator—maybe it was in the Budget Office, or maybe some of each—but, somewhere along the line, I got a master's degree in business, as well.

JM: Oh, okay. So you had an MBA, on top of that.

DW: Yeah, I did. And Jerry Meehl was not a PhD when he started here, either.

JM: I was not. No.

DW: But, you got a PhD.

JM: In the end, yeah. (Chuckles.)

DW: So, I'm a big fan of the educational assistance program.

JM: Yeah. You and me, too, for sure.

DW: I really believe it. Not just for my own sake; I just believe in it with all my heart. That, it is a good thing for the corporation to do, to pay for people to go to school. And I was involved in discussions, where it would come up that: "Maybe we shouldn't waste our money that way." And some people would argue: "You know, some people will get that additional degree, and then they'll quit and go somewhere else." And I said: "You know what?" I said, "When I was the head of the Contracts Office, I once hired a guy who was a captain in the Air Force, active duty. And then he resigned his commission from the Air Force and came to work for me. And I got the benefit of all the education that he'd had in the Air Force. So, it can work both ways."

But it's just a good thing to do for society, to help people with their education. So, every time I see, like, a private company—like McDonald's, or some of these others—they're getting into the educational assistance business. It's the same thing with McDonald's: if they give somebody more education, a lot of those people are gonna leave McDonald's and go somewhere else. But it's just a good thing to do.

[01:01:01]

JM: Yeah, that is. Yeah. That's definitely true. I do have to ask you about the first Christmas party, here in the Mesa.

DW: (Big laugh!) Oh, that's funny that you mention that. But I *will* tell you about it. So, I'd started here August 1st. And we moved into this building in October. But I want to mention something else, before the Christmas party. And that is: this building cost five-and-a-half-million dollars. Five-and-a-half-million dollars. Seemed like a lot of money, in those days, in the 1960s. Now, there are houses in Boulder that cost more than five-and-a-half-million dollars. (Interviewer is chuckling.) So, at any rate, five-and-a-half-million bucks.

But, that winter of 1966—when the building was brand new—very soon, when we had snow piling up on the roof—we have a flat roof, we can see by looking out the window—when the snow would melt, on that flat roof, water was pouring down, because the roof leaked. (Interviewer laughs.) And we had buckets all over—like, in the main entrance, you know, up and down the hallway, we had buckets catching water from the roof. And we had a janitor who was always out there, all day long, with a mop, mopping up water. So we had this brand-new, wonderful building, with a leaky roof. And we ended up spending a million dollars, fixing the roof. And the contractor, and the architect, and the suppliers of the materials that were on the roof, all blamed each other. So they all were suing each other (interviewer is chuckling) and all this. And eventually, there was a legal settlement, and they all kind of agreed what their share

would be. And it got fixed. So, that was an interesting thing that happened real soon, after the building was open.

[01:03:02]

But in that first Christmas party—December, just two months after we moved in—some of these creative people (chuckling) created a drink, for the Christmas party, called "Fish House Punch." And this Fish House Punch was the most misleading beverage I've ever had in my life. It was several kinds of rum, and I don't know what else, but it was incredibly misleading. You just didn't feel like you were drinking something that was that strong alcohol. But it was. And a lot of people got really drunk. (Interviewer is laughing.)

So, Walt Roberts was president of UCAR and director of NCAR. And, the Monday after that party, he got a lot of phone calls, from a lot of wives, complaining about how their husbands had come home—or *not* come home. (Interviewer is laughing.) And so, the lesson was: this was not a good place to have people drink a lot of hard liquor. So, I don't think there was ever a party since then, where they ever had hard liquor. But they have beer and wine; but they don't have stuff like Fish House Punch.

JM: The word was that they had a fire in the fireplace in the Damon Room. Did you see that?

DW: Yeah, I think I was there.

JM: Oh yeah? That may be the only fire that's ever been in that fireplace.

DW: Yeah, right.

JM: I've been told that, but I don't know that for sure.

DW: I don't know why the fireplace was never used.

JM: But it was used that night, apparently.

DW: I would believe anything. And I was one of the victims. I mean, of the punch. I certainly was.

JM: Supposedly, it started snowing, during the party, and everybody was driving home on bad roads, right?

[01:05:05]

DW: Yeah. That's another thing: there was a time, at least once, when one or both of the Boulder high schools wanted to have their prom here. And Bill Rawson was vice president, and he was the person who was gonna make the decision. And he talked to me about it. And I said that I was strongly opposed to it; that I thought having a bunch of high school students up here for a party—that there's some risk that, you know, one or more of those high school students would drink, and something really bad would happen. Somebody would go off the road. Because, there's been at least one death *on* the road.

JM: Which was a high school kid, I think. Wasn't it?

DW: Oh, yeah. That was—

JM: Right at the bottom of the hill?

DW: Yeah, that was Ed Violet's son. Ed Violet was a guy, a man that I played tennis with. He worked for NOAA, or one of the government labs. I played tennis with him a lot. I knew all his kids. And one of his boys came up here, in the parking lot, and they were drinking in the NCAR parking lot. And then he went down the road, and he went off the road, and died.

JM: Yeah. Because, I remember hearing about that.

DW: So, I was very strongly opposed to having any proms done here. And Bill went along with it, and that's held up ever since.

JM: Interesting. Well, there's been a number of incidents on the NCAR hill. There was the suicide-murder, or murder-suicide, whatever it was. The guy that—on that little pullout, right there, by what used to be called the "Samsonite Woman's House." Do you remember that happening?

[01:07:05]

DW: Faye Carter [?].

JM: Yeah, right. There's that little pullout that goes to the NCAR [cross talk] _____ [?] down there.

DW: Yeah, right. Sure.

JM: And the guy, he ran a—I can't remember the details. Do you remember that happening?

DW: I don't.

JM: He and his girlfriend—there was death involved. And, I remember people talking about: it happened on that little side—

DW: But there was an NCAR employee that died on the road, too.

JM: Oh, really?

DW: I think he worked in the Chemistry Division.

JM: Oh! No, he didn't die. He was severely injured; had a brain injury. That was—gosh, what was his name? He was a Scientist Three. And he was up here running a chemistry experiment, on the weekend, and he drank a couple beers when he was setting up the lab experiments, and he

was driving down, and somehow went off the road. And the car rolled, and he smacked his head on a rock, or something.

DW: Yeah.

JM: And he survived—

DW: But he had brain damage—

JM: But had brain damage. And then they—NCAR hired him back, as a maintenance guy. And it was just really sad. Because, here was this guy who was a high-level scientist. And now, he's a maintenance guy, out there, like, sweeping up the front walks, and stuff like that. And he ended up dying in a motorcycle accident, a couple years later. That was another, kind of, sad kind of thing. So, stuff has happened on this hill.

DW: Yeah, right. Some hazards.

JM: But, I don't think there's been a Christmas party like that first one, since then.

DW: No. Nothing like it. (Interviewer chuckles.)

[01:08:30]

JM: I have a meeting at 2:30, but in the last parts here, a little bit about your hobby, which is—I wouldn't even call it a hobby. It's an—

DW: A passion.

JM: —avocation. A passion, right. You're one of the highest ranked bird watchers in the country, right?

DW: Oh, I wouldn't go that far.

JM: Well, in Colorado, for sure.

DW: I've seen a lot of birds. (Laughs.) I've seen a lot of birds in Colorado, and in the country.

JM: How'd you get into that?

DW: Uhh. I was interested in wildlife from the time I was a small child. My father and my brother were electrical engineers. And my brother—for example—I would say, lived in the basement, playing around with radio stuff and electronic stuff. And I lived outside. So I was always interested in wildlife. But I wasn't really active in birding until later in life. Just, you know, interested in birding, but not really making special trips, and all that sort of thing. But I had a cousin who lived in Phoenix, who was one of the top birders in Arizona, by far. Number one or number two, in terms of the number of species he had seen, in Arizona and in the country. I went down on a trip to Arizona, and my cousin, Bob Bradley, took me touring around Arizona,

and we saw a lot of birds. And then I really got hooked. So then I got into going on birding trips, with tour groups. So, I've been on a lot of those tour groups.

[01:10:30]

And then, later on, I got more daring. And I went on trips outside the country, that I planned on my own. Although: I have a rule that I never drive in a country where I can't speak the language. And I really mean that seriously, and with good reason. So, even though I plan my trips, and where I want to go, I always hire drivers to drive me around the country. So I've made multiple trips to places like Costa Rica, and Ecuador, and Trinidad and Tobago, and Mexico. A lot of trips in Central and South America. Not so much, other places than that.

JM: So, when you were on these NCAR trips to Ghana and—

DW: I wasn't that hooked on birding then. So, I could have, but I—

JM: It was a missed opportunity.

DW: Yeah, it was a missed opportunity. But, especially, I did all this stuff in North America and Central and South America. I've been to all fifty states; I've been to all the great birding spots in the U.S. Alaska, Hawaii, California, Florida, Texas. I've been to all fifty states.

JM: So, what's your life list look like?

[01:11:49]

DW: Oh, in North America, it's like 720 species. Most birders, if they get to 700 species, they feel like they've really reached a really big-time threshold. And I'm well over 700. But, among all the bird species, I've been especially passionate about hummingbirds. I love hummingbirds. And, all the hummingbirds in the world are in the Western Hemisphere. They're all in the U.S., Central America, South America. There are no hummingbirds in Africa and Europe—or Hawaii, for that matter. So, I've photographed over a hundred hummingbird species—I've photographed most of the species that I've seen. There's a few I haven't been able to photograph, of the hummingbirds. But I have photographed over a hundred hummingbird species. And they're hard to photograph! (Laughs.)

JM: Yeah, right. Because they're moving around—

DW: They're little, and they don't hold still!

JM: So, how many hummingbird species are there?

DW: There's actually about 300.

JM: Really?

DW: Yeah. But some of them are in places that are hard to get to, in places like Ecuador, and Columbia, and Bolivia, and Peru.

JM: So, you've photographed a hundred, and you've seen more than that, you said.

DW: Yeah, I've probably seen, you know, 130 or so, and photographed 110, or something.

JM: Your photographs—I don't know if you've ever seen his photographs [said to Laura Hoff]—he takes these fantastic photographs. I mean, National Geographic-level photographs of birds. (Narrator is laughing.) It's just really amazing. And you use a scope, right? You have a scope that you can take a photograph through?

[01:13:32]

DW: Well, both. I have a hand-held camera that's usually with about a 400-millimeter lens. And then I have a telescope, a spotting scope, that's bigger and more powerful. And then I have a small camera that I attach to the telescope, to take distant birds. Like if there's, say, a loon out in the middle of a lake, you take the scope, and then you attach a little camera—which also has magnification—and you can take pictures of very faraway things. That's called "digiscoping," when you attach a camera to a telescope.

So that, kind of, re-enlivened my birding—twenty years ago, or whenever I got into the bird photography. So, it's one thing to see birds; it's another thing to photograph. But it's just amazing how the hobby has changed over time. There are so many wonderful cameras available, these days, that weren't available thirty years ago, that lots and lots of people are taking bird pictures, now, and getting really good pictures, too.

JM: Birding is something that you can do infinitely, right? You can go places; you can do it in almost any physical condition you're in.

DW: Yeah, exactly.

JM: It's not like tennis.

[01:15:02]

DW: It's a great hobby. And if you're really passionate about it, you end up seeing a lot of the world—which makes it interesting, because after you've seen—like me, I've seen most of the bird species that ever occur, in Boulder County. I've seen most of the bird species that ever occur in Colorado. I've seen most of the bird species that ever occur in North America, for that matter! So, when you get to that point, then you start thinking about going to other places. So, for me it was mostly Central America and South America. For some people, it's like going to Asia, or Africa, or some of these other places.

JM: There's been other, kind of, high-end birders at NCAR. I'm thinking, of course, Peter Gent is one of them.

DW: Joanie Kleypas, too.

JM: Joanie Kleypas. But wasn't Paul Julian also a big birder?

DW: He is, right. And I knew Paul Julian, and Leslie Julian, too.

JM: Oh, she was also a birder?

DW: Maybe. I'm not sure.

JM: I remember people talking about him, at the time. He's this, kind of, remote, distant kind of scientist guy. But he had this thing about bird watching, which didn't seem to fit his personality.

DW: Yeah. And he—the last I knew, and I'm not really current—he lived in a really hot spot for birds, down on the Texas Gulf Coast. Down near Corpus Christi.

JM: So, he can watch the migrations come past?

DW: Yeah, right. Yeah. Texas is one of the great places for birds—like Florida, and Arizona. California.

JM: And of course, Peter Gent, I guess, is kind of on par with you, in terms of being serious about it.

DW: More so.

JM: He's more serious?

DW: More so.

JM: Really?

DW: Definitely. He doesn't do photography, though, at all.

JM: No photography. And Joanie Kleypas is, kind of, not quite at your level, then, right?

DW: She's a good birder. She loves birding, because she's a native Texan. And being from the Texas Gulf Coast—Galveston, or somewhere in that area. She really got hooked on birding.

[01:17:05]

JM: So, we're getting close to the end, here. What do you—what's your overall—when you look back on NCAR and everything else, and what's happening at NCAR now, what do you think about it? Because, you've got this perspective, historical perspective.

DW: Yeah, right. Well, that's a good question, and I do have some thoughts. When I started here, almost everyone was in this building. We had about 350 employees. I'm pretty sure I'm right on this, that the UCAR president's office was two people. Two people: Walt Roberts and Nancy Wright. Walt was president of NCAR, director of NCAR—president of UCAR, director of NCAR—and Nancy Wright was his secretary. Two people in the UCAR president's office. Walt

believed that the management and the administrative activities should be the smallest possible, to get the job done.

Over time—over the fifty-three years that I've been here—of course, the overall institution has increased a lot. I don't know how many UCAR employees there are: 1,400, 1,500. Whatever it is, it's a big number. It's not 350. So, it's bigger. So, one of the tragedies of that is: we can't all be under one roof. We tried to have expansion, here, on the Mesa, and the city government people, and the neighbors, wouldn't have it. I went to City Council meetings, until the wee hours of the morning, where people talked about stuff like that. And it's clear that some of the powerful neighbors, and powerful people on City Council, they just won't have it. We can't expand here. So, we're not under one roof. We're in several buildings. And that's unfortunate, because people just won't interact as much when they're spread around. So that's one loss.

[01:19:30]

The other thing is that: over time, not only have the overall numbers increased, but the number of high-paid management people is out of sight. This isn't on the front pages of the *Daily Camera*, but if you could see all the management people—if they had all their names and titles and salaries and benefits—it would be staggering.

JM: It would be staggering to the NCAR staff, to know that.

DW: Yeah. And some of the organizational things that have taken place, over time, instead of minimizing management levels, actually *increased* management levels. So, Walt Roberts' idea of having the management numbers of people and dollars to a minimum, has kind of been trashed. And that's really unfortunate.

The product of basic research is scientific papers. These management people, and these administrators, don't write any scientific papers. And clearly, you know, you have to have an accounting department; you have to have a UCAR president; you have to have an NCAR director. And some of these people—you have to have an HR department. But boy, all of those areas that I just mentioned, it's not just one person in any of those; it's a whole pile of people, making a lot of money. And, I think that's too bad.

JM: You won't get any arguments from me on that! (Laughter.)

[01:21:30]

DW: And the other thing I wanted to say—one of the things we were going to talk about—is: UCAR, NCAR, didn't exist sixty years ago. And it's not a given that it has to exist six years from now. So, UCAR/NCAR have to be good, and special, to justify their existence, and continue. In 1959, before NCAR existed—

JM: [Says something about the Blue Book.]

DW: —this document was produced, called the Blue Book. And it provides the justification, that led to the creation of NCAR. And, you know, people in management probably ought to take a look at this, now and then, and try to figure out how we were justified in the first place, and how

we're going to continue to be justified. And I think it amounts to a number of things: one is excellence—we have to be really good—and, what I might call "uniqueness." Because, if we're mediocre, and/or we're not doing anything that can't be done just as well or better at a university, you can't justify our being here. And, so, that's something that needs to be cognizant, all the time, that we have to be able to be special.

JM: Yeah, yeah. Hopefully we can keep it going.

DW: Well, certainly in the present state—from my perspective, which is very limited at this point—it looks like UCAR/NCAR is doing pretty well. But, you have to keep working at it, all the time.

JM: That's right. All right! I think we've done it. We've got you on record.

LH: Thank you both.

DW: All right.

JM: Thanks, a lot, for coming up.

DW: (Light laugh.) My pleasure.

[01:23:40] [Recording ends.]