

**University Corporation for Atmospheric Research  
National Center for Atmospheric Research  
Oral History Project**

**Interview of Walter Orr Roberts  
February-April, 1985**

**Interviewer: Lucy Warner**

Gauss: This is Nancy Gauss, archivist with the National Center for Atmospheric Research (NCAR). Lucy Warner, of the NCAR Publications Office, is talking with Walter Orr Roberts about the Mesa Laboratory and its architect, I.M. Pei. It is now 10:10 a.m., February 28, 1985.

Roberts: Did we ever succeed in finding the program for the building?

Warner: I've got some files here...

Roberts: Let's let the program go for now.

Warner: ...I think I found what you were talking about.

There seem to be various programs for the building. There was one name on it before the architect was chosen, I think, that looks like it was submitted to the National Science Foundation...that outlined your vision of what the building would--

Roberts: Glad you found that because I don't think we were able to find it. I'd like to see that sometime and refresh my memory.

Gauss: There's a copy in the Archives.

Roberts: Here's all three of 237 pages of it. Is that an extra copy?

Warner: I don't know if this is the exact same thing...

Roberts: Haven't looked through these for ages.

This is it. This was given to all the architects, all six of them.

Warner: One thing we have to decide is how much time you can actually give me, to help out with this, because I'm sure I could gobble up a lot of hours getting your reminiscences. I've got about six weeks to do the research on this.

Roberts: I can give you a lot because during the month of March, I have only two days

away. I'm going up to Aspen on the 10th and 11th and 12th.

Warner: Maybe we should just leave this open-ended, start talking, see how far we can get and kind of go an hour at a time.

Roberts: It's fine with me. You can arrange it with Pam or Susan. I don't come in till ten in my retirement. By the way, I liked your story about the airplane.

Warner: Thankyou. I got so many comments on that.

Roberts: I'm an airplane pilot, as you may know and have been all my life. I soloed an airplane in 1935.

Warner: You've done all phases of atmospheric research.

Roberts: Well, coming to this document, there were a couple of things you took from my words that I think I was a little careless about.

Warner: I have to tell you that this was drawn up sort of out of whole cloth...before I had done any research, so I'm not at all suprised that there are some mistakes.

Roberts: I wouldn't say that Pei's first design was a failure...because he gave them as a preliminary. He'd be quite offended if we said it was a failure.

Warner: I wouldn't call it a failure in print, but that's one of the aspects that fascinates me: is what does not work up here that would work in another setting.

Roberts: I don't even think his original design would have worked in another setting. I think he was symbolically too--how would you say, "monolithic."

Warner: Now that's something I've been trying to get hold of and I don't have any records--do you have any idea whether we have those original drawings and where they might be? Would Pei have them? Were they thrown away?

Roberts: I wouldn't have the vaguest idea.

Janet looked at this and she said that I did not camp on the mesa with Pei, I camped with his adviser, whom I hired--Tician Papachristou. So, that's not significant. But, even though I didn't camp overnight with Pei, we did come up here at all times of the day and night. Not like three a.m. She said the camping overnight that I did was with Tician Papachristou. He was the architect I hired. I hired an architect in order in order to, how would you say, to "guide and direct" Mr. Pei. I wanted to have somebody that lived in Boulder, that knew the climate, that I could work with on a day-to-day basis because Pei was very busy. So I hired Papachristou to work for me half-time, or a third-time, I don't remember, as a consultant.

Warner: That sounds like a very unorthodox setup, but I don't know--

Roberts: Well, I don't know whether it is or not. But it was something--

Warner: And it was all right with Pei?

Roberts: Oh, yeah. Pei liked it. Papachristou is a very distinguished architect. He now became senior partner of Marcel Breuer firm.

I spent a lot of time with Pei, though, in addition. Have you seen the film that I did with Pei?

Warner: No. I certainly haven't and I didn't even know there was one.

Roberts: There's a movie interview with Pei, about thirty minutes.

Warner: This was made by our film unit?

Roberts: No, this was made by a professional, PBS, was carried on the \_\_\_\_\_, may have been an hour, maybe a half hour. It's about the building...that was TV. It was done about 1970.

Warner: So that's Henry Lansford's era?

Roberts: No, I think...let me see if I have a copy...no, the Pei one isn't here.

Warner: Do we have a copy?

Roberts: I don't know.

Gauss: I'll look in the warehouse.

Warner: ...I'll try to track it down through PBS otherwise.

**American Meteorological Society**  
**University Corporation for Atmospheric Research**

## **TAPE RECORDED INTERVIEW PROJECT**

### **Interview of Walter Orr Roberts: March 7, 1985**

**Interviewer: Lucy Warner**

Nancy Gauss: This is Nancy Gauss, archivist at the National Center for Atmospheric Research.

Lucy Warner (sp?) from Publications is speaking with Dr. Walter Orr Roberts: about the Mesa Building and its architect, I. M. Pei. The date is March 7<sup>th</sup>, 1985. The time: 1:10 pm.

(break in audio)

Lucy Warner: (inaudible)

Nancy Gauss: Right.

Lucy Warner: (inaudible) In looking at this very old article from *Architectural Forum*, I noticed that Pei talks about his early articulated designs for the building.

Walter Orr Roberts: Is that what he called it?

Lucy Warner: Yeah. And which says to me --

Walter Orr Roberts: What does "articulated" mean?

Lucy Warner: Well, I can't tell you what he really meant, but I am assuming that he meant with vertical divisions in it, traditional floors.

Walter Orr Roberts: Well, I don't --

Lucy Warner: And I wondered whether there were some other early... Got to look it up. Yeah.

Walter Orr Roberts: I need to look up what --

Lucy Warner: You look up "articulated" --

Walter Orr Roberts: -- “articulated” means.

Lucy Warner: -- and I’ll look up the (the quote?).

Nancy Gauss: I think that’s an architectural term.

Lucy Warner: Yeah.

Nancy Gauss: I think you’re right, Lucy, for when they have delineated various stories in --

Lucy Warner: Yes --

Nancy Gauss: -- a building --

Lucy Warner: -- exactly.

Nancy Gauss: -- and --

Lucy Warner: That’s correct.

Nancy Gauss: -- columns. But he should have this. Oh, there are no --

Lucy Warner: No beams (inaudible) Have you seen all the floor (overlapping dialogue;  
inaudible)

Walter Orr Roberts: Apparently joints consisting of segments.

Lucy Warner: Yeah. “ ‘Our earlier solutions,’ he said, ‘were much more articulated than the  
final one. But we would put them against the mountains and they would collapse  
visually’.”

Walter Orr Roberts: Mmm-hmm.

(laughter)

Lucy Warner: Maybe it was in his head. Maybe he didn’t actually get to (overlapping dialogue;  
inaudible)

Walter Orr Roberts: Well, he did some earlier designs. He did three or four conceptual  
designs.

Lucy Warner: OK. Would you happen to know what happened to those?

Walter Orr Roberts: They were just drawings. They weren't models or anything. We made a model of this design, and made a model of the mesa and squinted at it.

(laughter)

Lucy Warner: OK. That answers that. This is partly for my own curiosity. You mentioned last week that you had hiked this mesa for years before NCAR came into being, and that --

Walter Orr Roberts: (overlapping dialogue; inaudible)

Lucy Warner: Right. And that you had a different sort of an institute in mind earlier, and I just -- is that at all relevant to (overlapping dialogue; inaudible)

Walter Orr Roberts: I don't really think so, because it never materialized. I had the thought of creating a sort of a "Colorado Institute of Technology" like California Institute of Technology. And I had visions of a graduate research center that was an advanced study institute. And I talked with people at the Ford Foundation about it, and they were interested also. But we never got beyond the talking stage.

Lucy Warner: It's interesting to me because in your mind -- this was an idea that germinated in you.

Walter Orr Roberts: Uh-huh. That's right.

Lucy Warner: And that's --

Walter Orr Roberts: At that time, I was myself thinking that the University of Colorado ought to go strongly in the direction of graduate research, and not try to be a large undergraduate institution, not try to be a conventional university, but go for excellence in high technology, and remain no bigger than 4,000 or 5,000 students ever. But that wasn't a very popular concept.

(laughter)

Lucy Warner: But you got your mesa anyway.

Nancy Gauss: Yeah. One thing that I ran across in the *Camera* files -- I went to the *Daily Camera* and looked through their clippings -- was some sketches done by some university students for a possible building up here. And there was one that was these little round pods in a circle.

Walter Orr Roberts: Oh, yeah. I remember that.

Nancy Gauss: That was kind of interesting. It --

Walter Orr Roberts: We had a competition, didn't we?

Nancy Gauss: Yeah.

Walter Orr Roberts: Right.

Nancy Gauss: I think so, yeah. And it just looked like something that was very much Sixties (laughter) in design.

Walter Orr Roberts: Yeah. I had --

Nancy Gauss: It was very dated.

Walter Orr Roberts: -- forgotten that. Yeah.

Lucy Warner: This was presumably preliminary to your putting out the bids to architects?

Walter Orr Roberts: Yes. I think it was during the period when we were interviewing all six architects. We thought there might be some ideas come out of it that would be applicable to the... I think we wrote a program for them similar to the program we wrote for Mr. Pei.

Lucy Warner: But presumably nothing substantial (overlapping dialogue; inaudible)

Walter Orr Roberts: No. It was only intended to stir ideas --

Lucy Warner: To stimulate them and to see (overlapping dialogue; inaudible)

Walter Orr Roberts: -- and to be available to the architects.

Lucy Warner: Right. I've got to ask you about the crow's nests, and I want to ask you about the vertical lines of this building. I've always thought the crow's nests were sort of ivory towers -- I mean literally -- and I wondered whether that is what you had in mind, or whether the crow's nests grew out of the design. Did you begin with the idea of having high, isolated --

Walter Orr Roberts: We wanted the crow's nests to be isolated places that were out of the stream of traffic, not easily interruptible work areas, and a little bit difficult to get up into. And they didn't turn out to be as popular as we had expected.

Lucy Warner: And why do you think that is?

Walter Orr Roberts: I don't know. We had organized the building to a considerable extent for vertical rather than horizontal circulation: people going up and down to other members of their same group. And part of it was the objective of reducing long horizontal corridors. And to a certain extent, it works. The High Altitude Observatory is sort of vertically organized.

Lucy Warner: Yes. That's true. Is that an accepted architectural principle? Because I don't know --

Walter Orr Roberts: I don't think --

Lucy Warner: -- of any --

Walter Orr Roberts: -- so.

Lucy Warner: -- buildings... I mean, people walk (inaudible) (laughter)

Walter Orr Roberts: No, I don't think it is.



(overlapping dialogue; inaudible)

Walter Orr Roberts: We were also interested in these corner segments as being little subgroups, and where you could get an identity around part of the building that would be different from the other parts of the building.

Lucy Warner: Well, that certainly happened.

Walter Orr Roberts: Yeah, that has happened. And --

Lucy Warner: And I think you were --

Walter Orr Roberts: -- we also never made much use of the outside patios, except --

Lucy Warner: No. That's true.

Walter Orr Roberts: -- by the cafeteria.

Lucy Warner: And you know why I think that is? This is my personal theory.

Walter Orr Roberts: It's the wind.

Lucy Warner: Is it the wind?

Walter Orr Roberts: Well, I don't know. Why do you --

Lucy Warner: I think they're facing the wrong way.

Walter Orr Roberts: What do you mean "facing the wrong way?"

Lucy Warner: I think if the outside patios faced the [flatirons?], people might use them more.

The cafeteria.

Walter Orr Roberts: Some of them do.

Lucy Warner: Well, I guess the (inaudible) one does.

Walter Orr Roberts: Yeah, and also --

Lucy Warner: But the [tree?] plaza --

Walter Orr Roberts: -- the one up --

Lucy Warner: -- and the --

Walter Orr Roberts: -- in Bill Hess's (sp?) office area --

Lucy Warner: Well, that's true.

Walter Orr Roberts: -- is -- yeah.

Lucy Warner: Well, those don't get used at all.

Walter Orr Roberts: No.

Lucy Warner: And that is interesting, isn't it?

Walter Orr Roberts: Yeah.

Lucy Warner: I don't know.

Walter Orr Roberts: Yeah.

Lucy Warner: I don't know why that is. I just --

Walter Orr Roberts: No, they've never been used, and I don't know why. I even put picnic tables in them at the beginning.

Lucy Warner: Yeah, yeah. Well, maybe people are more social than you --

Walter Orr Roberts: Yeah.

Lucy Warner: -- had planned for.

Walter Orr Roberts: And I do think the winds were a deterrent.

Lucy Warner: Yeah. But there are all kinds of -- I mean, you will be happy to know (laughter) that in Publications, we use our little patio area all the time.

Walter Orr Roberts: There you go.

Lucy Warner: And it's partly because we have no windows in our offices, and we get claustrophobic. If we're proofreading in the summer, we always go out there. We have a special deal where they leave our door unlocked so we can do it. But the winds are only

a deterrent a tiny fraction [of the time?].

Walter Orr Roberts: Yeah, that's true.

Lucy Warner: I think it's partly habit, and I think it's partly the building policy that doesn't let people go out.

Walter Orr Roberts: Well --

Lucy Warner: A lot of them, the public ones --

Walter Orr Roberts: -- they turned out to be a little more dangerous than I had hoped.

Lucy Warner: Well, are they dangerous? It --

Walter Orr Roberts: Well --

Lucy Warner: -- seems sort of --

Walter Orr Roberts: -- they have very low railings, and children can fall off easily.

Lucy Warner: Really? Now, our one has quite a high...

Walter Orr Roberts: Well --

Lucy Warner: It's concrete, and it's waist-high. I mean, my children (laughter) (inaudible) but most people's children --

Walter Orr Roberts: No, but look at that one right there --

Lucy Warner: Well, that's true.

Walter Orr Roberts: -- that's just a concrete --

Lucy Warner: That's true.

Walter Orr Roberts: -- wall.

Lucy Warner: You know, I really need --

Walter Orr Roberts: So you can sit on --

Lucy Warner: -- to go --

Walter Orr Roberts: -- them, and there's a guy who often, for a long time, used to lie there and sleep.

(laughter)

Lucy Warner: Oh, not knowing that your window --

(overlapping dialogue; inaudible)

Walter Orr Roberts: -- often to sleep.

Lucy Warner: Oh, dear. Well, that's what you wanted. You wanted all kinds of spaces for all --

Walter Orr Roberts: Yeah.

Lucy Warner: -- kinds of work. People hanging off the building... (laughter)

Walter Orr Roberts: [Then when that was?] finished, I wanted him to put up steel vertical bars, you know? But he didn't like the idea because --

Lucy Warner: You wanted Pei to do that because you were afraid it was dangerous?

Walter Orr Roberts: So people wouldn't fall off so easily.

Lucy Warner: Well, nobody's ever fallen off.

Walter Orr Roberts: Nobody's fallen off, but...

Lucy Warner: Interesting. So did that not occur to Pei when he was designing them, that they would be dangerous?

Walter Orr Roberts: No, it didn't really. Also, in those days, nobody thought anything about handicapped people.

Lucy Warner: That's true. Well, that is true. So I haven't asked Art Binkley (sp?) about whether or not the crow's nests are popular or unpopular, and I in fact haven't gone around to talk to people that work up there, which I should do to find out how they feel about them. But your feeling is that they have not been --

Walter Orr Roberts: I think they have not --

Lucy Warner: -- successful?

Walter Orr Roberts: -- been as popular as I thought. Phil Thompson (sp?) has always liked one, and he was one of the prime advocates, and he's happy in his. They turned out not to be quite as well ventilated or heated as the other spaces. They turned out to be cold on cold days. But that was --

Lucy Warner: Well, there are a lot of places --

Walter Orr Roberts: (inaudible)

Lucy Warner: -- in this building that are not well ventilated.

Walter Orr Roberts: (overlapping dialogue; inaudible) If they hadn't screwed up the air conditioning, I wouldn't have asked.

(laughter)

Lucy Warner: By the way, I talked to a guy in Design, and he says it wouldn't have worked to have no air conditioning, because it (inaudible) well anyway. (laughter) Part of the problem is the building didn't get used the way you wanted it to be used. You have more people, and so you have more work areas.

Walter Orr Roberts: That's true.

Lucy Warner: And so --

Walter Orr Roberts: So we had intended --

Lucy Warner: -- you didn't (overlapping dialogue; inaudible)

Walter Orr Roberts: -- to air condition the interior parts.

Lucy Warner: Oh, I see. But not the outside -- oh --

Walter Orr Roberts: But not the towers.

Lucy Warner: -- I see. I see. So do you think the failure of the sort of vertical communications is because people worked in larger groups than you had conceived? Or...?

Walter Orr Roberts: Well, I wouldn't say it completely failed, because you see --

Lucy Warner: Well, that --

Walter Orr Roberts: -- a lot of the groups do circulate vertically. The second and third floors in this part of the building people go back and forth all the time. But it wasn't quite as significant as I had thought. And this north part of the East Tower I had expected particularly to be nice and vertical because those two stories are separated from the south part of the East Tower. You have to walk outdoors upstairs there to get across --

Lucy Warner: Except they --

Walter Orr Roberts: -- on the third floor.

Lucy Warner: -- covered that over. Are you talking about the bit they've just glassed in?

Walter Orr Roberts: Yeah. They just glassed that in. Yeah. But that was also to increase --

Lucy Warner: To get people --

Walter Orr Roberts: -- the isolation. But the one part that did work very well was that the building is easy to modify. And it gets modified all the time because there are no internal structural limitations on modifying. And that was intended.

Lucy Warner: Yes, yes. Now, you said you went around and you looked at a lot of other labs.

Walter Orr Roberts: Mmm-hmm.

Lucy Warner: And I wonder what you looked at and what --

Walter Orr Roberts: Well, it's --

Lucy Warner: -- whether you had -- for example, I've seen drawings of the Salk Institute in -- where is it? In California?

Walter Orr Roberts: And I visited the Salk Institute before it was finished.

Lucy Warner: And was that built -- it was in the process of being built before this?

Walter Orr Roberts: The designs were done, but it hadn't been built.

Lucy Warner: So you and Pei both --

Walter Orr Roberts: (overlapping dialogue; inaudible)

Lucy Warner: -- knew that design?

Walter Orr Roberts: Yes, I think so. And I visited a lot of other labs. I visited the Cold Spring Harbor Lab biological labs in Long Island, and I visited several labs at MIT. And I visited Atel. And I visited about six or eight different laboratories.

Lucy Warner: Now, is --

Walter Orr Roberts: Arthur D. Little? Did I mention that one?

Lucy Warner: No.

Walter Orr Roberts: I visited -- that was a commercial lab, and a very good -- oh! And I visited Bell Labs several times to talk with people at Bell Labs.

Lucy Warner: Bell Labs in --

Walter Orr Roberts: Murray Hill --

Lucy Warner: -- Chicago?

Walter Orr Roberts: -- New Jersey. That's perhaps the best-known laboratory, and maybe the best laboratory in the country.

Lucy Warner: Now, was this at the point where Pei was the architect for the project? Or was this preliminary to that?

Walter Orr Roberts: I think it was both. I think I started doing it before Pei was chosen to get ideas to help with the choice. But I also visited after Pei was chosen.

Lucy Warner: And what did you learn? What --

Walter Orr Roberts: Well...

(laughter)

Walter Orr Roberts: I learned a lot of things not to do.

Lucy Warner: Not to do! (laughter)

Walter Orr Roberts: Yeah. And of course, I was familiar with the [Imperial?] Standards

Laboratory here in town, which I felt was a good example of --

Lucy Warner: Abysmal. (laughter)

Walter Orr Roberts: -- how not to do it. And... let me see. What did I learn? Of course, I'd had the experience of designing the High Altitude Observatory building on the campus.

Lucy Warner: Oh! I didn't know that.

Walter Orr Roberts: Yeah. And that building was so popular that it was copied by Colorado State University. The Atmospheric Science Lab is a copy of that on a slightly bigger scale.

Lucy Warner: So when was that designed?

Walter Orr Roberts: Well, that was built...I can't remember, but it was before NCAR. Probably '58.

Lucy Warner: And were there lessons to be learned from your successes and failures in the HAL building?

Walter Orr Roberts: Yeah, I think so. The main thing that I learned was that you didn't want a lot of permanent built-ins. You wanted an easily-modified building, and you wanted the core heart to contain the shared facilities, and the office parts to be more isolated. In the HAL building, it was a single building, but in the center you had libraries and a machine



shop, and storage rooms and things of that sort, archival areas. And then all around the periphery you had the offices, and you the complete walking around circulation so that you had a lot of different ways to go, just as you do in this building. I think complexity and diversity of ways to go is the thing that appealed to me the most after going to the various labs, and the thing that I found least desirable designs that were hard to change and that had great long circulation corridors.

Lucy Warner: And that was designed by -- [HAL?]?

Walter Orr Roberts: Which one?

Lucy Warner: The HAL building.

Walter Orr Roberts: That I think was designed by the university, working with us. Designed mainly by us, and then I think the university engineering -- the buildings and grounds, under [Walter Brockway?], took over its engineering drawings and construction. I don't believe there was an architect.

Lucy Warner: OK. We haven't talked at all about the Fleischmann Building.

Walter Orr Roberts: No.

Lucy Warner: Maybe we should do that, talk about (overlapping dialogue; inaudible)

Walter Orr Roberts: Well, the design of the Fleischmann Building was almost entirely Mr. Pei's. I had indicated that we wanted it to be a building symbolic of the independence of the corporation from the contract. That's why I insisted that we own it and build it with private funds, and that's on a piece of land that was leased back from the NSF to the corporation. Originally, the site was given to the corporation, and then --

Lucy Warner: By the state? Is that right?

Walter Orr Roberts: Yes. Mmm-hmm. It may not have actually been given, but it was planned

to give it to us. Then we found out that we couldn't get the money to build the building unless it was on federal land.

Lucy Warner: Oh. So it had to then --

Walter Orr Roberts: So they had to give it --

Lucy Warner: -- be deeded to NSF?

Walter Orr Roberts: -- to the NSF. And then they deeded back one acre for the corporate offices.

Lucy Warner: Is that because federal construction is cheaper? Why you could not afford to build it unless it were federal land?

Walter Orr Roberts: It was some kind of a restriction on spending NSF money. They weren't allowed to build buildings for a private corporation. I don't know if that still applies or not.

Lucy Warner: I have no idea. I see.

Walter Orr Roberts: Yeah.

Lucy Warner: So Pei was called back.

Walter Orr Roberts: "Called back?"

Lucy Warner: To design the Fleischmann building, this -- or was it just --

Walter Orr Roberts: Oh! Yeah. We had talked about it from the very beginning, and --

Lucy Warner: Well, was this the conference center? I've seen talk about a conference --

Nancy Gauss: Yes --

Lucy Warner: -- center --

(overlapping dialogue; inaudible)

Walter Orr Roberts: No, that was a separate thing. We had planned a [Von Nieman?] Center --

Lucy Warner: Well --

Walter Orr Roberts: -- in the center of the parking lot. That was to be the computer center and the conference center, and a large auditorium. And the parking lot was designed so that it could be in the center of that circle, sort of, of the parking lot, very easily accessible to the parking.

Lucy Warner: Was that also at the time of the third tower, that that was going to be the package?

Walter Orr Roberts: No, that was after the --

Lucy Warner: After the tower?

Walter Orr Roberts: That was originally to be the second increment.

Lucy Warner: I see. The [Von Nieman?] Center was?

Walter Orr Roberts: Yes. Mmm-hmm. And then you were going to be able to go without going outdoors between the conference center and the building. There would be a tunnel. And in fact, the tunnel would have gone under the sidewalk, which goes down -- you know the sidewalk that goes to the middle of the parking lot?

Lucy Warner: Right.

Walter Orr Roberts: That was supposed to --

Lucy Warner: Supposed to be a tunnel?

Walter Orr Roberts: -- come directly into the conference center.

Lucy Warner: So did you envision having conferences obviously on a grander scale than the kind of conferences [at?] --

Walter Orr Roberts: Yeah.

Lucy Warner: -- [the time?] --

Walter Orr Roberts: Mmm-hmm.

Lucy Warner: -- that NCAR?

Walter Orr Roberts: Yeah. We felt --

Lucy Warner: -- actually held?

Walter Orr Roberts: -- that we would need an auditorium that would seat 300 people. In fact, we were probably going to have it to seat 400 people so that it could accommodate essentially all the staff. We were not planning to be 800 then.

Lucy Warner: That's right. And in fact, there is no large conference facility in this building.

Walter Orr Roberts: No. We have (inaudible), [however?]. (inaudible), I mean.

Lucy Warner: I ran into reference to an "ASP building."

Walter Orr Roberts: That was still another building. That was called "Thompson's Retreat."

Lucy Warner: Oh! (laughter)

Walter Orr Roberts: And that was to be a very, very austere, simple building for study groups that would last maybe two, three, four weeks, and probably only summer. It might have been a summer building without heat. And it would be for summer studies like the so-called "SCMIC report": "Special" -- let's see -- "Committee on Man's Impact on Climate." "Man's Impact on Climate." Yeah.

Lucy Warner: That's correct, yeah.

Walter Orr Roberts: Study of man's impact on climate. And SCEP.

Lucy Warner: (laughter) SCMIC and SCEP?

Walter Orr Roberts: Yeah.

Lucy Warner: They're [old?] acronyms.

Walter Orr Roberts: Those were conferences in which we participated, but they were held at other places because we didn't have a suitable place.

Lucy Warner: Now, this would have been a retreat --

Walter Orr Roberts: This would have been --

Lucy Warner: -- up here on the mesa?

Walter Orr Roberts: Yeah. Up towards the point.

Lucy Warner: The point being the...?

Walter Orr Roberts: To the west.

Lucy Warner: Up the other side --

Walter Orr Roberts: You know, you walk up the --

Lucy Warner: -- of the (overlapping dialogue; inaudible)?

Walter Orr Roberts: -- mesa, and then you come to a place where you have to go down.

Lucy Warner: Right. And the water towers --

Walter Orr Roberts: It would have been --

Lucy Warner: -- at the point?

Walter Orr Roberts: -- right up -- no, not as far as that. You know where you walk to the west,  
you go over to --

Lucy Warner: Uh-huh. And you (overlapping dialogue; inaudible)

Walter Orr Roberts: -- to some rocks. Then you go down and you can walk down to the road  
(overlapping dialogue; inaudible) saddle there. It's before you get to the saddle.

Lucy Warner: Before the saddle? I see.

Walter Orr Roberts: Yeah. A beautiful spot there for it.

Lucy Warner: Yeah, that's true. That's true.

Nancy Gauss: It would be gorgeous.

Lucy Warner: It would have been tucked around the back --

Walter Orr Roberts: Yeah.

Lucy Warner: -- so it (overlapping dialogue; inaudible)

Walter Orr Roberts: And then the other possibility was west of the Fleischmann Building.

There were two sites. It was never anything more than just a conceptual plan.

Lucy Warner: West of the Fleischmann Building?

Walter Orr Roberts: Yeah. Right on the brow of the hill, farther up towards this building.

Lucy Warner: When I think about it, I just think of there being a road there. I (inaudible).

Walter Orr Roberts: Yeah. Well, there's a little space --

Lucy Warner: There's a little space?

Walter Orr Roberts: -- between the road and the brink of the hill, brink of the mesa. But we decided not to consider that location because it was a little bit too small, and it would have been crowded.

Lucy Warner: Now, was this part of the second increment, or was that yet a --

Walter Orr Roberts: That was never --

Lucy Warner: -- third increment?

Walter Orr Roberts: -- actually --

Lucy Warner: Never conceived to be funded in --

Walter Orr Roberts: No.

Lucy Warner: -- any specific (inaudible)?

Walter Orr Roberts: It was never proposed for serious funding.

Lucy Warner: Right. So the Fleischmann Building was designed separately.

Walter Orr Roberts: Mmm-hmm.

Lucy Warner: Designed for a small number of independent staff --

Walter Orr Roberts: The corporate staff.

Lucy Warner: -- members, for the corporate staff, with a corporate conference room.

Walter Orr Roberts: Board room.

Lucy Warner: Board room?

Walter Orr Roberts: Or a room for the Board of Directors, Board of Trustees.

Lucy Warner: Right. And was designed as a separate building symbolically --

Walter Orr Roberts: Mmm-hmm.

Lucy Warner: -- so that UCAR would be conceived of as a separate --

Walter Orr Roberts: Mmm-hmm.

Lucy Warner: -- entity from NCAR?

Walter Orr Roberts: You see, the president's office is not funded out of the contract.

Lucy Warner: No? Right.

Walter Orr Roberts: That salary is not paid by any contract.

Lucy Warner: Was that your idea, to build a separate building?

Walter Orr Roberts: I guess so. I am really not sure, because it was strongly shared by the other staff. Dr. Waterman and all the people in NSF were very sympathetic to that concept. And there's never been any opposition to that from -- it strengthens the NSF's hand to have the corporation as a --

Lucy Warner: As a -- yes, that's right. That's right.

Woman: Can you sign this right away? I can still get it in [now?].

Walter Orr Roberts: Oh, all right. Excuse me just a half-sec.

Nancy Gauss: What does she need?

(break in audio)

Woman: Sorry for the interruption, (inaudible)

Lucy Warner: No problem! (laughter) Why did Pei not do the bush hammering on the Fleischmann Building? Do you know?

Walter Orr Roberts: Well, the bigger question is why did he do it on this building?

Lucy Warner: (laughter) Well, you could say it that way, too.

Walter Orr Roberts: I was never in favor of the bush hammering.

Lucy Warner: I know. That's what you said. Looking at the bit that has the bush hammering and looking at the flat texture, I actually like it. But if you're right and it's created the weeping in the -- you know, the crack, and then some of structural problems that we have, then easily it was a mistake. And if it was expensive, that's another consideration.

Walter Orr Roberts: It was expensive.

Lucy Warner: Was he dissatisfied with the effect of the bush hammering? Is it (overlapping dialogue; inaudible)

Walter Orr Roberts: No, no. He was very satisfied.

Lucy Warner: He was?

Walter Orr Roberts: And I'm not saying I like it, but I don't think it's worth it.

Lucy Warner: Yeah. I mean, that is another question.

Walter Orr Roberts: We've paid a high cost. Now, it may be that the concrete was at fault and not the bush hammering. No one knows. But the construction of the Fleischmann Building, the bush hammering had so far overrun the cost estimates that -- and since I had never been very much in favor of it from the start, we just decided to forego it. And we were on an extraordinarily tight budget.

Lucy Warner: OK. Because I notice in looking at Pei's other work of this era, I think -- and it



may be that NCAR was his first concrete slab structure; I don't know if that's true or not.

I'll find out from him.

Walter Orr Roberts: I'm not sure. I know --

Lucy Warner: But he went on to do a lot of poured concrete, and bush hammering is mentioned in every single design.

Walter Orr Roberts: Yeah.

Lucy Warner: So it was obviously part of his...

Walter Orr Roberts: Yeah. Well, it looks nice, no question of that.

Lucy Warner: It looks nice. But if it --

Walter Orr Roberts: Gives it a nice texture.

Lucy Warner: Yeah. Incidentally, nobody knows about this crack. I can't track down the crack.

(laughter) I don't know if there is a cover-up really going on...

Nancy Gauss: I did find in the *Camera* some articles on a lawsuit, an early lawsuit, with Pei.

And I was wondering -- I didn't read the article because I was too intent on copying them and getting out of the way of the librarian (laughter) there. But I don't think it was about the roof, because it was too early for the roof. Would that crack have been something that --

Walter Orr Roberts: No, no.

Nancy Gauss: -- would have --

Walter Orr Roberts: No, no. It was the roof. The --

Nancy Gauss: Oh, it was the roof?

Walter Orr Roberts: -- lawsuit was about the roof. You know --

Nancy Gauss: OK. And --

Walter Orr Roberts: -- the leaks.

Nancy Gauss: OK. And the construction company was taken to court, and...

Walter Orr Roberts: Well, we sued both Pei and the construction company, over my objections.

I felt that Eby was not to blame. I felt that if anybody was to blame, it was Pei. But I felt that we would never win a lawsuit, and that it wasn't worth going to court over it.

We (inaudible) try to get an out of court settlement, and we finally did. We each agreed to pay a third of it. But I think Eby got a raw deal, because he had been absolutely scrupulous in following the engineering designs. The engineering designs were faulty.

Lucy Warner: Is Pei bitter about that?

Walter Orr Roberts: No. He's sad about it, but he isn't bitter.

Lucy Warner: Sad that his --

Walter Orr Roberts: Sad that he --

Lucy Warner: -- design --

Walter Orr Roberts: -- had the problem, and... But he's sort of a person who says that "art justifies it all." You know? So --

Lucy Warner: (laughter) Well, that's fine if he doesn't have to [live?] --

(overlapping dialogue; inaudible)

Lucy Warner: I thought he was a pragmatist. Oh, dear.

Nancy Gauss: So there were never --

Lucy Warner: So --

Nancy Gauss: -- any lawsuits or anything publicly mentioned about the crack?

Walter Orr Roberts: No, I don't --

Lucy Warner: I can't find --

Walter Orr Roberts: -- think so.

Lucy Warner: -- what I am saying to you is the people downstairs don't know about -- I went down and asked where the crack was, and got a lot of blank stares, including from --

Walter Orr Roberts: George?

Lucy Warner: Well, George wasn't there. Blair (sp?) thought he knew where it was and couldn't find it. I'll ask George. But --

Walter Orr Roberts: Well, John [Fire?] --

Lucy Warner: -- Rich Davis (sp?) has --

Walter Orr Roberts: -- knows where it is.

Lucy Warner: -- been there since before -- does he?

Walter Orr Roberts: Yeah.

Lucy Warner: OK. I'll talk to John [Fire?]. Thank you. This is not going in the brochure, needless to say. I'm just very curious (laughter) to find the famous crack.

Walter Orr Roberts: Well, I have to confess I have never seen it.

Lucy Warner: Well, if I find it, I'll show you. (laughter) I'm sure it's been well plastered and painted. (laughter) I hope.

Nancy Gauss: Is it a hairline crack, or...?

Lucy Warner: No, it's a --

Walter Orr Roberts: No, it's --

Lucy Warner: -- big one.

Walter Orr Roberts: -- apparently a big one.

Lucy Warner: It's a big one.

Walter Orr Roberts: A couple of inches.

Lucy Warner: That's the rumor.

Nancy Gauss: Oh.

Lucy Warner: But how could they not know? Jack Bell (sp?) didn't know about it, but the architect -- and Rich Davis, who was here when the building was built, didn't know that...? They said there were lots of little cracks, but there's not a major, big crack.

Walter Orr Roberts: Well, I could be wrong.

Lucy Warner: Well, I'll talk to John Fire. And if he says you're the one that knows, (laughter) then I'll give up. (laughter) Nancy, did you have some other questions? You wanted to talk about the climate and the [kind of?]...

Nancy Gauss: Oh, yeah. Over at UCAR, I found an interesting notebook that included a map of the United States. And on it, various locations were pinpointed with statistics about the climate, wind patterns, and so forth. And I was wondering what influence or what assets this particular location had over others in terms of the climate, and what the role of the climate here played in --

Walter Orr Roberts: Well --

Nancy Gauss: -- the selection --

Walter Orr Roberts: -- one of the specifications --

Nancy Gauss: -- of the site?

Walter Orr Roberts: -- in the blue book -- are you familiar with the blue book?

Nancy Gauss: Mmm-hmm. Yeah.

Walter Orr Roberts: One of the specifications in the blue book was that the laboratory, when it was physically chosen where it would be, should be a place that had easily available a large variety of climate and weather phenomena. And so in the survey of possible

locations, each of the places was assessed for the abundance and character of the meteorological phenomena. And so that's why we did a fairly careful study of Boulder and two or three other sites. And Boulder, as you might well imagine, the [leeways?] and all of that, came out way ahead. It has thunderstorms, it has mountain ways, it has --

Lucy Warner: It has no hurricanes. (laughter)

Walter Orr Roberts: -- down (overlapping dialogue; inaudible) it has...

Lucy Warner: Now, you at this time were heading up HAO and starting NCAR at the same time.

Walter Orr Roberts: Yeah.

Lucy Warner: What would have happened if they had chosen another site?

Walter Orr Roberts: Well, when they asked me if I wanted to be the director, wanted to be considered for the directorship, I said I didn't want to leave HAO. And they asked me if -- suppose that they did include HAO, but NCAR had to be somewhere else. And I said, well, we'd come to that when we had to, but they could find another --

Lucy Warner: You would --

Walter Orr Roberts: -- director, because (overlapping dialogue; inaudible)  
(laughter)

Lucy Warner: So you were banking on them picking Boulder? (inaudible)

Nancy Gauss: That's what the blue book says.

(laughter)

Walter Orr Roberts: But don't quote that.

Lucy Warner: No! I was just curious. But yes, the whole thing seems to be very much a personal expression of yours, and --

Walter Orr Roberts: Yeah. Well --

Lucy Warner: -- what you've chosen (overlapping dialogue; inaudible)

Walter Orr Roberts: -- I wouldn't have left Boulder, because if I did, I'd have had no wife.

(laughter)

Nancy Gauss: Yeah. You would have been a victim of [Nowatt's?] curse.

(laughter)

Walter Orr Roberts: Yeah.

Lucy Warner: That's right. Well, I think we have answered our questions. I don't want to take up any more time.

Walter Orr Roberts: All right.

Lucy Warner: We can make another appointment for next week and do some more digging, and maybe I'll have found a crack.

Walter Orr Roberts: All right.

(laughter)

Walter Orr Roberts: Well, if you find the crack, let me see it.

Lucy Warner: (laughter) You know? (laughter)

END OF AUDIO FILE 1

START AUDIO FILE 2

(overlapping dialogue; inaudible)

Walter Orr Roberts: -- pictures.

Lucy Warner: Mmm-hmm. That's a recent brochure --

Walter Orr Roberts: That's a recent brochure?

Lucy Warner: -- put out by the Aztec National Monument. And they talk in there about corner doorways. Remember, you were talking about the cornered windows, and I thought

maybe that has been an inspiration of some kind. We just toured the [town?] of Mesa Verde --

Walter Orr Roberts: I remember now --

Lucy Warner: -- this year.

Walter Orr Roberts: -- another thing. And that was the fact that everything's inside the perimeter. And outside, it's wild. That's another thing that this building -- and now that I recall this and see this outline, there is a building in Spain that influenced Mr. Pei. Is there a building called "the Alhambra?"

Lucy Warner: Yes.

Nancy Gauss: Mmm-hmm.

Walter Orr Roberts: Is that in Spain?

Lucy Warner: Yes --

Nancy Gauss: Alhambra, right.

Lucy Warner: -- it is. It's in --

Nancy Gauss: It's (inaudible)

Lucy Warner: -- Granada?

Nancy Gauss: Is it Toledo?

Lucy Warner: No, it's not in Toledo. It's in the south.

Walter Orr Roberts: Anyway, when you speak to --

Lucy Warner: (overlapping dialogue; inaudible)

Walter Orr Roberts: -- a secretary, mention that building also --

Lucy Warner: OK.

Walter Orr Roberts: -- and tell her I think --

Lucy Warner: But that's great.

Walter Orr Roberts: I think it's the Alhambra, but I'm not sure.

Lucy Warner: Partly, I'm interested in this to get some visual variety in the brochure. We can only do so many shots of this building.

(laughter)

Lucy Warner: It would be nice to be able --

Walter Orr Roberts: You see --

Lucy Warner: -- to have pictures of other things.

Walter Orr Roberts: Yeah. You see, one of the things that characterizes this building is the fact that all the refined stuff is inside the outer perimeter. There's a very sharp boundary between nature and culture, and inside the wall, it's all cultured. That's why we had (inaudible) there, and we had a lovely foundation there which is gone. But the minute you come to the wall of the building, you go out into nature, where the deer come, and the only exception to that was one that they snuck in on me down in the Fleischmann Building, that --

Lucy Warner: The little bit of grass?

Walter Orr Roberts: -- little plot of grass. That was a surprise that Mr. Pei wanted me (laughter) to have.

Lucy Warner: (laughter)

Walter Orr Roberts: Yeah. Now that I see this, I don't remember what it was about it exactly, except that it was -- I do remember --

Lucy Warner: Well, there is a real --

Walter Orr Roberts: -- there was that perimeter design, and yet... Yeah. You see you could



live on the inside, and almost completely, like --

Lucy Warner: Almost a sort of compound feeling.

Walter Orr Roberts: -- ignore [that?] (inaudible) -- yeah. Sort of a compound. Yeah. Plazas.

Plazas were the center of daily life. A 500-unit pueblo may have been occupied by as many as 700-people. And it says everything happened in the plaza. OK.

Lucy Warner: You've also got that sense that you often do with primitive cultures and architecture of the local materials --

Walter Orr Roberts: Yeah.

Lucy Warner: -- being used, and therefore the buildings blending with the setting in this incredible way that you don't get [in?] --

Nancy Gauss: And that's why I was --

Lucy Warner: -- more sophisticated construction.

Nancy Gauss: -- wondering if that was the inspiration of that harmony between nature and the living environment.

Walter Orr Roberts: I think that perhaps and the Spanish building were both examples of the same separation. Also, the Italian walled cities where --

Lucy Warner: OK. Pei was influenced by those, huh?

Walter Orr Roberts: Yeah. Mmm-hmm.

Lucy Warner: OK. The Alhambra --

Walter Orr Roberts: I was influenced --

Lucy Warner: -- is a very --

Walter Orr Roberts: -- at least. I was very influenced --

Lucy Warner: By the --

Walter Orr Roberts: -- by the Italian walled cities, because I used to spend my vacations in Italy every spring.

Lucy Warner: Oh!

Nancy Gauss: Oh!

Walter Orr Roberts: And yeah, I'd go for a month to Italy.

Nancy Gauss: That sounds wonderful.

Lucy Warner: It sure does. Let's go!

(laughter)

Nancy Gauss: I know.

Lucy Warner: I'm ready.

(laughter)

Nancy Gauss: Boy.

Walter Orr Roberts: In fact, this is the month: the last half --

Nancy Gauss: This is the month? (laughter)

Walter Orr Roberts: -- of March, and the first half of April.

Nancy Gauss: Oh.

Lucy Warner: I'll have to pull some pictures of the Alhambra, because as I remember it, it's rather elaborate, with fountains and tiles and --

Walter Orr Roberts: Yeah. I don't remember either in detail, and --

Lucy Warner: But it's also a walled compound, so it may be that sense of enclosure and interior space.

Walter Orr Roberts: It's gone now also, but in addition to having the fountain there, we had a thing in the middle of this turnaround, a special kind of light. It gave a really almost

surrealistic appearance to the front entrance there. But the cars kept running into it and breaking it down. (laughter) It was not very high. It was only about that high. But it cast plumes of light. Plumes of light. If you go out there, you can still see the ruins of...

Lucy Warner: (laughter)

Walter Orr Roberts: You can't quite see it (inaudible)

Lucy Warner: Oh. I'll take -- look at old pictures (inaudible)

Walter Orr Roberts: Can't see it from here, but whose office -- I think you could see it from Holly's, but you can certainly see it --

Lucy Warner: I can go down and --

Walter Orr Roberts: -- from that balcony.

Lucy Warner: -- look from outside.

Walter Orr Roberts: Yeah.

Lucy Warner: I wonder if you would be interested in just walking around the building a little bit and talking about --

Walter Orr Roberts: Sure.

Lucy Warner: -- the specific features. I don't know whether you want to go through the interior or the exterior, or bits of both, but (inaudible) walk through.

Nancy Gauss: It's nice out.

Walter Orr Roberts: Well, let's just do it right now.

Lucy Warner: OK.

Walter Orr Roberts: I have to be back here at 11:00. I have an appointment at 11:00.

Lucy Warner: Oh, I guess it's three quarters of an hour.

Walter Orr Roberts: All right. Let's go.

Nancy Gauss: OK, great.

Walter Orr Roberts: We can look first at that place I was telling you about (inaudible).

(break in audio)

Walter Orr Roberts: -- they are. Oh, not there.

Lucy Warner: The planters? Oh, oh!

Walter Orr Roberts: There.

Lucy Warner: I see. OK.

Walter Orr Roberts: Yeah. That's why the driveway where you come in is that -- you are supposed to be inside the building. You see that wall, and then that structure out by the -- that's supposed to mark the beginning of the building as separated from nature.

(break in audio)

Walter Orr Roberts: Now that I think about it, it also resembles the Aztec pueblo. And that is that the vertical walls have relatively little window space. And that's a feature of this building. It's only something like -- I think it's 15%.

Lucy Warner: Ah! Guess what?

Walter Orr Roberts: What?

Lucy Warner: I've got your key from Dorothy.

Walter Orr Roberts: Oh, good.

Nancy Gauss: Oh, you're all prepared.

Lucy Warner: [She?] knew this would happen. I didn't know it would happen quite so soon, but where is the --

Walter Orr Roberts: The bottom. Right at the bottom.

Nancy Gauss: The bottom. So those corner windows are like the corner doorways.

Walter Orr Roberts: Does it work?

Lucy Warner: No. (inaudible)

Walter Orr Roberts: Let me try mine.

Lucy Warner: It says all -- oh, you found one? OK.

Walter Orr Roberts: (inaudible) Nope. Mine doesn't work, either. They must have changed it.

Lucy Warner: That's terrible! Well, this says all --

Walter Orr Roberts: Oh! There, mine worked.

Lucy Warner: There you go.

Nancy Gauss: Oh, great.

Walter Orr Roberts: Yeah. You can see the remnants of that thing that provided the light in the center of the circle there.

Nancy Gauss: I was wondering about that, what that was. What was --

Walter Orr Roberts: And those things --

Nancy Gauss: -- the purpose of that.

Walter Orr Roberts: -- one, two and three, four, five, six, those were lights. And they were only about this high, but they cast spotlights in six directions.

Lucy Warner: So that you could see to drive around?

Walter Orr Roberts: Well --

Lucy Warner: Was that the idea, or...?

Walter Orr Roberts: -- it was to give a sort of surrealistic look. And the trees and the patio were another (inaudible) or another example of the use -- we had expected it would be used much more than it is -- of the inner space. Oh, yeah. And then the -- well, you don't see it right here, do you? When you go up to the fifth floor -- we'll go up there

now -- you see little tiny picnic areas. Do you remember those?

Lucy Warner: I was just up there on Friday, and I do.

Walter Orr Roberts: And I'll show you.

Nancy Gauss: They're apparently sunbathing (inaudible)

(laughter)

Nancy Gauss: (inaudible)

Lucy Warner: Oh, how nice! (laughter)

Walter Orr Roberts: Yeah.

Lucy Warner: Is that what they're being used for --

Walter Orr Roberts: But you see --

Lucy Warner: -- now? (laughter)

Walter Orr Roberts: -- the perimeter line is very sharp, and it distinguishes between the outside  
and the inside. That was taken from the --

Lucy Warner: Walled cities in --

Walter Orr Roberts: From the walled cities, and also --

Nancy Gauss: Oh, thank you.

Walter Orr Roberts: -- from the -- now, there's when that was pretty, when the light was just  
right at that angle. Yeah.

Nancy Gauss: A beautiful day today.

Lucy Warner: Isn't it?

Walter Orr Roberts: Let's go up there.

Lucy Warner: After this tour, I might finally know my way around the building.

(laughter)

Walter Orr Roberts: Oh, and there are also -- if you look outside of [Carme?]'s office, there is one -- no. No? But there is outside of Business office: there is a little patio. No, it's not the Business office anymore, is it? We'll walk down that way, too, on the way back.

Lucy Warner: Yeah. You were saying last week that those exterior spaces are not used the way you thought they would --

Walter Orr Roberts: No.

Lucy Warner: -- be, and it's --

Walter Orr Roberts: No, they're not.

Lucy Warner: -- surprising to me, because I -- of course, I have no windows in my office, and I crave --

Male: Hi!

Lucy Warner: -- outdoor space.

Walter Orr Roberts: Hi. How are you? (inaudible) I'm grading his thesis paper.

Male: Yeah. I'm just --

Walter Orr Roberts: Acid free.

Male: Yes.

Lucy Warner: (laughter)

Walter Orr Roberts: You're not going to make any (inaudible)?

Male: That's right.

Walter Orr Roberts: Did you see where Reagan finally agreed to work on acid rain?

Male: Oh, really?

Walter Orr Roberts: Yeah. And he --

Lucy Warner: I think it's going to be (overlapping dialogue; inaudible)

Nancy Gauss: He agreed to do more research.

Walter Orr Roberts: No, I don't.

Lucy Warner: -- something else.

Nancy Gauss: This is it.

Walter Orr Roberts: See you later.

Male: Yeah.

Lucy Warner: Here's a fan of your crow's nests right here.

Male 2: Oh, yeah!

Walter Orr Roberts: Here's one right here. (laughter) You see it isn't used much. Do you use that at all?

Female 1: Oh, in the nice weather we use it.

Lucy Warner: How do you get out there?

Female 1: Well, there's the door.

Walter Orr Roberts: There's a door.

Male 2: You have to first promise not to jump off of...

(laughter)

Walter Orr Roberts: See, there's another one here (inaudible) almost [unused?]. And then out there, we had expected that this space would be much more used.

Lucy Warner: Now, this has a real feel of (inaudible) about it, right? What --

Walter Orr Roberts: Yeah.

Nancy Gauss: Yeah.

Lucy Warner: -- are these things?

Walter Orr Roberts: But you get nice views from it.



Lucy Warner: What is the (inaudible)?

Walter Orr Roberts: That's a spiral staircase tower.

Lucy Warner: Oh, of course.

Walter Orr Roberts: Yeah.

Lucy Warner: You know, this person's office, he can only get there by walking through --

Nancy Gauss: No, he has the spiral staircase.

Walter Orr Roberts: He has the spiral (inaudible) and see it. (inaudible)

Lucy Warner: Oh, what a neat place to work!

Nancy Gauss: This is the crow's nests.

Lucy Warner: Oh --

Walter Orr Roberts: Yeah, this is --

Lucy Warner: -- gosh!

Walter Orr Roberts: -- a crow's nest. And you see, you get up through here. (laughter) Do  
you ever use the stairway?

Male 3: Well, I am just moving in today.

Walter Orr Roberts: Oh, you are just moving in?

Male 3: So...

Lucy Warner: Lucky you! You --

Male 3: Yeah, I feel --

Lucy Warner: -- get one of the --

Male 3: -- privileged.

Lucy Warner: Boy, this is beautiful.

Walter Orr Roberts: Yeah. Isn't this nice? You really get a view --

Lucy Warner: Gee!

Walter Orr Roberts: -- while you sit here and work. And...

Lucy Warner: This is where the privileged work, huh?

Walter Orr Roberts: Uh-huh.

Male 3: Yeah. Most people, they shuffle them in and out of here pretty quickly because it's everybody's privileged -- or you know, lucky to get in here. So I think they move people.

Lucy Warner: They should have a lottery.

Male 3: Yeah.

Walter Orr Roberts: It's not as well ventilated or heated as it might be in the winter.

Male 3: But --

Walter Orr Roberts: But?

Male 3: -- you get your own control of the ventilation --

Walter Orr Roberts: I know.

Male 3: -- and heat.

Walter Orr Roberts: That's true.

Male 3: And --

Lucy Warner: It's the only place in --

Male 3: -- you were supposed to in the whole building when it was built. Each office is supposed to have an individual control, and the damned NSF architects made us change it.

Lucy Warner: But look, you've got them.

Walter Orr Roberts: You've got them, but --

Lucy Warner: They are little boxes --

Walter Orr Roberts: -- you can't use them.

Lucy Warner: -- it's just that George took the box --

Walter Orr Roberts: Well, you've got them here.

Lucy Warner: I hold --

Walter Orr Roberts: These work.

Lucy Warner: -- George responsible for this.

Male 3: These ones work.

Walter Orr Roberts: These work. So that's no...

Lucy Warner: What a neat place to work. Gosh. Well, I can't wait --

Walter Orr Roberts: Now, here is the thing I was telling you is tradeoff. People falling off, or  
jumping --

(overlapping dialogue; inaudible)

Walter Orr Roberts: I wanted to have a steel --

Lucy Warner: [Put up?] a rail.

Walter Orr Roberts: --- railing about that high so little kids -- [at least?] that they wouldn't  
think of it.

Lucy Warner: Would they have to approve for you to do something --

Walter Orr Roberts: Well, --

Lucy Warner: -- like that? (inaudible)

Walter Orr Roberts: -- in the beginning, yes. We could do anything we wanted to do.

Nancy Gauss: Yeah. Walt, have you ever been to Hovenweep National Monument in --

Walter Orr Roberts: Where is that?

Nancy Gauss: It's actually on the border between Utah and Colorado, right above -- I guess it's about 50 miles north --

Walter Orr Roberts: If that was open, yeah.

Nancy Gauss: -- of Mesa Verde.

Walter Orr Roberts: No, I don't think I have.

Lucy Warner: And it's --

Walter Orr Roberts: How are you today?

Male 4: Oh, not too bad. How are you today?

Walter Orr Roberts: Good.

Male 4: Is this a tour of the building or what?

Lucy Warner: Yeah.

Walter Orr Roberts: Yeah. It's a little tour --

Lucy Warner: This is (overlapping dialogue; inaudible) a tour of the building.

Walter Orr Roberts: -- of the building.

Nancy Gauss: They're making money up here.

Male 4: (inaudible) excuse us.

Lucy Warner: Hello. Hi.

Male 4: You see these are here also.

Nancy Gauss: Oh, I see.

Lucy Warner: Yeah.

Nancy Gauss: OK.

Walter Orr Roberts: Yeah.

Lucy Warner: Do you guys ever use your patios?

Female 2: Yes. We have a picnic table and benches that we use that came through the window in the last windstorm, so they've taken it away --

Lucy Warner: Oh, great!

Female 2: -- for a little while.

(laughter)

Walter Orr Roberts: Did it actually come through --

Nancy Gauss: Oh, dear!

Walter Orr Roberts: -- the window?

Female 2: It hit the window and knocked the window out.

Walter Orr Roberts: No kidding?

Female 2: Yeah. Yeah. But we do use this one all the time.

Walter Orr Roberts: These are never used as much as we had expected they would be, because of the wind.

Female 2: Yeah.

Walter Orr Roberts: Yeah. But they're lovely, and they are -- is that empty? Can I go in there?

Female 2: Yes. Go right in.

Walter Orr Roberts: Yeah. Come on in.

Lucy Warner: Now, these were not designed to be the director's offices. Isn't that (inaudible)?

Walter Orr Roberts: That's correct. That's correct.

Lucy Warner: Is this Hess's (sp?) office?

Nancy Gauss: Yeah.

Walter Orr Roberts: This is Hess's office.

Lucy Warner: Now --

Walter Orr Roberts: And these little balconies are kind of funny.

Lucy Warner: For his speeches --

Nancy Gauss: (laughter)

Lucy Warner: -- to the public?

Walter Orr Roberts: Pardon?

Lucy Warner: It looks like this would be --

Nancy Gauss: It looks like a pulpit.

Lucy Warner: -- where the king would -- yeah, or the preacher --

Walter Orr Roberts: (laughter)

Lucy Warner: -- would stand, as a pulpit, and --

Walter Orr Roberts: Outstanding. That's where Woody Allen --

Lucy Warner: -- talk to his --

Walter Orr Roberts: -- climbed off of.

Nancy Gauss: Oh, is that right? That's the next thing I have to do, is (overlapping dialogue;  
inaudible)

Walter Orr Roberts: Not this one, but the one on that end.

Lucy Warner: Why is the --

Walter Orr Roberts: And you see here how that thing marks the entrance.

Lucy Warner: It's like a gate, symbolic.

Walter Orr Roberts: Yeah.

Lucy Warner: Why do some of these have these metal railings? I'm sure it's just aesthetic, but I  
couldn't figure out --

Walter Orr Roberts: Well, it's so you --

Lucy Warner: -- what exactly --

Walter Orr Roberts: -- wouldn't fall off (overlapping dialogue; inaudible)

Lucy Warner: Well, I know. But why didn't he just make a solid --

Walter Orr Roberts: Oh, he didn't think --

Lucy Warner: -- concrete wall?

Walter Orr Roberts: -- that looked good.

Lucy Warner: On the tree plaza, there are these funny little metal corners, and I couldn't figure out why they were there, because they're tiny.

Walter Orr Roberts: They're there for aesthetics.

Lucy Warner: They're aesthetics?

Walter Orr Roberts: That's part of his aesthetic view.

Nancy Gauss: This is a wonderful view.

Lucy Warner: Yeah.

Walter Orr Roberts: Yeah. Yeah, it's hard to beat. And when I was first here as director, I had bought the -- I had Steve Snyder's (sp?) office. I never used this office. [I?] was using this for (inaudible)

Nancy Gauss: Post-docs. Mickey (sp?) was up here, I understand --

Walter Orr Roberts: Oh, Mickey was in --

Nancy Gauss: -- for a while.

Walter Orr Roberts: -- there?

Nancy Gauss: But it was two offices.

Walter Orr Roberts: Oh, that's right. Mmm-hmm.

Nancy Gauss: Yeah. I know Mickey was one; I don't know who else.

Walter Orr Roberts: Yeah. It was originally one office, and then it was made into two. That's right. I had forgotten that. See, these interior spaces can be divided any way you want, because the walls here are not load-bearing. The load-bearing walls are the big, heavy concrete peripheral walls, so that's a --

Lucy Warner: Well, it's actually to --

Walter Orr Roberts: -- curtain wall.

Lucy Warner: -- some of them are. I think that --

Walter Orr Roberts: Some of them are, yeah. There are some structures that are --

Lucy Warner: Tell me something. I keep running across references in the architectural journals about grids and sub-grids. And --

Walter Orr Roberts: I don't know what that means.

Lucy Warner: OK. I asked them downstairs, and they didn't think --

Walter Orr Roberts: Thank you.

Lucy Warner: -- it was particularly relevant.

Female 3: You're welcome.

Lucy Warner: I am just going to ignore it.

Walter Orr Roberts: Yeah.

(laughter)

Walter Orr Roberts: See, they look out the windows now and then.

Male 5: (laughter)

Lucy Warner: Yeah.

Male 5: Well, it's --



Lucy Warner: Rather than working.

Male 5: -- irresistible today.

Walter Orr Roberts: Is there a patio down on this level?

Male 5: Yeah. Uh-huh.

Walter Orr Roberts: (inaudible)

Male 5: Jim McWilliams' office --

Walter Orr Roberts: Oh, yeah. Here.

Male 5: -- is right under here.

Walter Orr Roberts: Here is the one I was trying to tell you about. See, there are those also  
around different places. They're not very much used, though, are they?

Male 5: No. Jim goes out there and ponders the world every once in a while. And I worry  
about him in the wintertime, because there's an enormous icicle --

Lucy Warner: (laughter) The spout!

Male 5: -- that forms here. It sometimes gets about four feet long, and --

Nancy Gauss: Oh, my goodness.

(laughter)

Nancy Gauss: Say, "Watch out below!"

Lucy Warner: Is that meant -- is it heat, ventilation, or (inaudible)?

Male 5: No, that's a drainage --

Lucy Warner: It's just a drainage pipe?

Male 5: -- thing from the road.

Walter Orr Roberts: That's a beautiful shamrock.

(overlapping dialogue; inaudible)

Male 5: Oh, isn't it, though?

Lucy Warner: They're not supposed to grow outside Ireland.

Male 5: They've been there for years, and it --

Lucy Warner: Really?

Male 5: -- kind of goes through cycles. And at times, it looks like it's going out of business, and right now, it's at its best.

Walter Orr Roberts: All of a sudden, it comes back.

Lucy Warner: It's because it's St. Patrick's Day.

Male 5: That's right.

Walter Orr Roberts: I have one that actually came from Ireland in 1840.

Male 5: Is that right?

Lucy Warner: Really?

Walter Orr Roberts: Yeah. It's (overlapping dialogue; inaudible)

Nancy Gauss: Wow.

Lucy Warner: Is it still...?

Walter Orr Roberts: It looks just like that, though. (laughter)

Lucy Warner: It's still growing?

Male 5: Yeah.

Male 6: Lucy, I enjoyed the Bach festival.

Lucy Warner: Oh, great!

Male 6: Congratulations --

Lucy Warner: So did I.

Male 6: -- on (overlapping dialogue; inaudible)

Lucy Warner: It was the first exciting thing I have ever been in. Thank you.

Male 6: I saw you at a birthday party that evening, but you were across the room.

Lucy Warner: Yeah, there was a million people there. Well, good. Thanks. What's on the  
"PH" level?

Walter Orr Roberts: Say again?

Lucy Warner: On the PH?

Walter Orr Roberts: Oh, the --

Lucy Warner: There's a penthouse?

Walter Orr Roberts: -- penthouse. You've never been there?

Lucy Warner: I've never been there.

Nancy Gauss: I was just up there on Friday. I decided I had to explore all these things on  
campus.

Walter Orr Roberts: Oh, we should have gotten there. Well, we're on the way down now.

Lucy Warner: That's OK.

Walter Orr Roberts: Yeah, I go up there sometimes and look around. There's a penthouse also  
in the East Tower.

Lucy Warner: Now, the two towers are not -- the penthouses seem identical from the outside.

And the crow's nests are identical, but the --

Walter Orr Roberts: Well, they've all been --

Lucy Warner: -- rest of the towers are not.

Walter Orr Roberts: -- remodeled --

Lucy Warner: Well, that's --

Walter Orr Roberts: -- inside. They were identical.

Lucy Warner: They were?

Walter Orr Roberts: Yeah. They were identical.

Lucy Warner: But --

Walter Orr Roberts: Pardon?

Lucy Warner: -- are the towers on the -- well, on the fourth floor, they're not. Are the third and second floor offices on the towers the same?

Walter Orr Roberts: How is that again?

Lucy Warner: The two towers, on these levels, on the second --

Walter Orr Roberts: Oh, are they --

Lucy Warner: No, they're not.

Walter Orr Roberts: -- the same?

Lucy Warner: They're not. I know the answer to that, because I've --

Walter Orr Roberts: No, they've been --

Lucy Warner: -- been through.

Walter Orr Roberts: -- changed. See, they were completely flexible, and when we moved in, we said, "How do you want yours designed?" And we had something like 12 different designs that could be used. Now, there's --

Lucy Warner: Oh, that's the grids and sub-grids, then.

Walter Orr Roberts: Maybe that's the grids.

Lucy Warner: There were 12 basic office designs?

Walter Orr Roberts: I think so. It might not have been 12, but there were a number. And then people could say, you know, "This is the one I like."

Lucy Warner: But the square footage of the offices is different.

Walter Orr Roberts: Yeah. That's all the same.

Lucy Warner: It's all the same?

Walter Orr Roberts: I think so. Well, you mean of the individual offices --

Lucy Warner: Yeah.

Walter Orr Roberts: -- as they were segmented up? No, I think that varies also. My god, what's going on here?

Lucy Warner: They're repainting, and plastering, I guess.

Walter Orr Roberts: Wow.

Lucy Warner: Big job.

Walter Orr Roberts: (inaudible) a structure, you have to (overlapping dialogue; inaudible) in place. [Watch it?]. Don't jump off. Oh, this (inaudible) that's being used. Oh, yeah.

Lucy Warner: Well, I sort of know the (inaudible), if you want to tell me something about (inaudible) as well.

Walter Orr Roberts: The ceiling is two stories high for the skylight on that end. And it's nice aesthetically, but it's bad from the standpoint of noise, because the heater has to be very powerful. Very inefficient. I was opposed to that, but I lost. That's a different -- those were originally in (overlapping dialogue; inaudible)

Lucy Warner: They're probably storage. They look similar to the ones we have around in Publication.

Walter Orr Roberts: Yeah. And of course, you were originally expected to walk down that flight of stairways by the stairs to the South Tower. I believe that's in the model in the library, isn't it?

Nancy Gauss: Yeah.

Lucy Warner: Where are the stairs?

Nancy Gauss: (inaudible)

Walter Orr Roberts: Say again?

Nancy Gauss: Right here.

Lucy Warner: Oh, oh, oh!

Nancy Gauss: They're right here.

Walter Orr Roberts: Yeah, you see there was a --

Nancy Gauss: That's just (overlapping dialogue; inaudible)

Walter Orr Roberts: -- where that ugly wooden thing was, there used to be a beautiful fountain.

But it leaked. It leaked into the area (inaudible)

Lucy Warner: It's too bad they can't put something there, because it's a sort of focal point. It

feels to me as though you need a sculpture or something there.

Walter Orr Roberts: They had a spray fountain, but the wind blew it -- carried the water all over, and it was very bad. But they could have had one of those bubbly ones, you know, that makes...

Nancy Gauss: Yeah.

Lucy Warner: That's true.

Walter Orr Roberts: You know, that wouldn't have blown all over.

Lucy Warner: But didn't it leak underneath?

Walter Orr Roberts: Yeah, it leaked underneath --

(overlapping dialogue; inaudible)

Walter Orr Roberts: And (inaudible) We tried to make it so that every different area was a little --

Female 4: I know!

Walter Orr Roberts: -- different.

Female 4: That (overlapping dialogue; inaudible)

Walter Orr Roberts: Every area was a little different.

Female 4: And you could have somebody thrown out if (inaudible)

Walter Orr Roberts: That's one of the things that -- see, this could be structured exactly like --  
the (inaudible) or the [test officer?] could be, but...

Lucy Warner: If the windows -- well, the windows are different.

Walter Orr Roberts: Say again?

Lucy Warner: The windows would be different, but the --

Walter Orr Roberts: No, the windows are essentially --

Lucy Warner: -- space -- are they the same?

Walter Orr Roberts: -- the same. Yeah. Oh, no. You're right. This is the same as the  
(inaudible) --

Lucy Warner: I think they're --

Walter Orr Roberts: -- level.

Lucy Warner: Yeah.

Walter Orr Roberts: This is the same as the (inaudible) level. It's just that the floor is different  
everywhere. (pause) I had expected that we'd have plants growing there.

Lucy Warner: Well, you know, if there were, they might not be so forbidding.

Walter Orr Roberts: Yeah.

Lucy Warner: They are kind of cold.

(overlapping dialogue; inaudible)

Lucy Warner: I've been tempted to do a (inaudible) question or something, but it's --

Walter Orr Roberts: Yeah.

Lucy Warner: -- get them used. It seems like a great shame.

Walter Orr Roberts: How do you do?

Male 7: All right. How are you?

Walter Orr Roberts: Fine. Hello? These are now [nearly?] extinct.

Lucy Warner: Oh, what are those?

Walter Orr Roberts: Pardon?

Lucy Warner: What are they?

Walter Orr Roberts: Well, they're not supposed to be [here in this place?], but they obviously are. But you see you can look all the way down from the --

Lucy Warner: Oh, for crying out loud!

Walter Orr Roberts: -- basement to the ceiling.

Lucy Warner: Look at that!

Walter Orr Roberts: This is the utility corridor, and you can see that plumbing and acid stuff.

Let's go to one that isn't used for storage. Now, (inaudible)

Lucy Warner: Oh, I see.

Walter Orr Roberts: All the utilities, there is an acid --

Lucy Warner: I know I smelled acid.

Walter Orr Roberts: -- thing, and electric. And so it can be strung --

Lucy Warner: But this is --

Walter Orr Roberts: -- whenever you want it.

Lucy Warner: -- acid that's being used for experiments? Is this being run from one lab to



another? What sort of acid is that?

Walter Orr Roberts: Say again?

Lucy Warner: What is the acid?

Walter Orr Roberts: Oh, some of the laboratories -- you see it's running real quickly?

Lucy Warner: Yeah.

Walter Orr Roberts: Some of them use --

Nancy Gauss: It's hydrochloric acid.

Walter Orr Roberts: -- toxic --

Nancy Gauss: It smells like it.

Walter Orr Roberts: -- or dangerous materials that would corrode a pipe. So you send it in glass. But these were done this way to avoid the need to install permanent ducts for the special things: nitrogen, oxygen, compressed air, and so on. Instead, you could just string anything anywhere you want whenever you want it. And that was the purpose of this, so that you can have a vertical circulation of utilities anywhere you need it and done at any time, rather than planned out in advance.

Lucy Warner: Is this a novel idea?

Walter Orr Roberts: Yeah, it's fairly novel. And...

Lucy Warner: Where was the big wind tunnel?

Walter Orr Roberts: That was starting on the next floor up, and going all the way up into the penthouse. Yeah.

Lucy Warner: And was that in a closet like this, or was it --

Walter Orr Roberts: No, this --

Lucy Warner: -- a much bigger thing?

Walter Orr Roberts: -- was a great big area. Let's see if we can see any signs of it. Let's walk [down here?]. Yeah. That was a vertical wind tunnel. And it never was very efficiently used. This door took you into it, and...you can't see any sign of it anymore. Well, maybe you can. No. It was all reconstructed, because this was open all the way up to the penthouse. Oops. And I'm just trying to recall whether it went out through the roof of the penthouse. I think it did, because about -- let's see: this is the third floor. And so it was four stories high. Yeah.

Lucy Warner: When you say it was never very efficiently used, you mean it wasn't --

Walter Orr Roberts: The experiments didn't work out very well in it. I've forgotten exactly why, but you know, the thing never worked particularly effectively. I don't remember the details. They did quite a lot of work, Charlie Knight and Eve Goyez (sp?), and the name of the guy who died. That was [our?] electricity guy. Sartor (sp?), Brian Sartor. Yeah. Now, what else should we look at?

Lucy Warner: The gaming room? The library? The --

Walter Orr Roberts: All right.

Lucy Warner: -- museum?

Walter Orr Roberts: [Let's see. We can walk there?].

Lucy Warner: We can look at the outside, the outside features that (inaudible)

Walter Orr Roberts: Let's see. That's... You know, I can't think of any -- oh, yeah! I know one thing that's interesting. It's outside of the gaming room.

Nancy Gauss: Thank you.

Walter Orr Roberts: Oh. Another feature here is that they put the lights at this level, but left all this open --

Lucy Warner: So that you could (overlapping dialogue; inaudible)

Walter Orr Roberts: -- and painted it black so that you don't have the sense of that all being open, but you can string anything that way also.

Lucy Warner: Now, is that in both towers?

Walter Orr Roberts: No. You see, this is what we call "the wet tower." All the utilities, water and... The other is the "dry tower."

Lucy Warner: "The dry tower?" I never knew that.

Walter Orr Roberts: Yeah. Yeah. This has wet labs, and it has hoods. Let's see if there are any --

Lucy Warner: What do you mean "hoods?"

Nancy Gauss: They are like plastic coverings that you get under --

Walter Orr Roberts: Are there any hoods left --

Nancy Gauss: -- when you're working with --

Walter Orr Roberts: -- anywhere in this area?

Male 8: Hoods?

Walter Orr Roberts: For gas?

Male 8: I don't believe so.

Nancy Gauss: Working with gases.

Male 8: There is an exhaust thing in there --

Walter Orr Roberts: Excuse me.

Male 8: -- if that's what you're talking about. I don't know.

Walter Orr Roberts: No, that's not what --

Male 9: Just a regular hood, huh?

Walter Orr Roberts: Yeah. There used to be a hood in this area.

Male 8: I have never seen it.

Walter Orr Roberts: No? No?

Male 8: The only -- you've got these exhaust fans, but that's about (inaudible)

Walter Orr Roberts: It was against this wall here.

Lucy Warner: And what was it for?

Walter Orr Roberts: Here? No? It was to evacuate gases, toxic gases and so on. Yeah. Let's come in here. No? (inaudible) That changed. We can't go out that way. Thanks.

Lucy Warner: Overall, would you say that the experimental use of the building is different from what you envisioned, or --

Walter Orr Roberts: No.

Lucy Warner: -- about the same?

Walter Orr Roberts: We envisioned that it would be changed a lot, and it has been. And so it was --

Nancy Gauss: Did you ever envision there would be this many people working here?

Walter Orr Roberts: No. We didn't envision this density. Let's go this way. No, we didn't envision this density at all. Especially we didn't envision having people in windowless rooms in the basement. Hi.

Female 5: Hi. How are you?

Lucy Warner: Hi, Cathy.

(break in audio)

Walter Orr Roberts: -- levels.

Lucy Warner: Penthouse? Right.

Walter Orr Roberts: Penthouse.

Lucy Warner: So this would have been 11 levels?

Walter Orr Roberts: Yeah. This would have been 11 levels. Yeah. Actually, you know, there's another level below the second basement.

Lucy Warner: No. What's there?

Walter Orr Roberts: You didn't know that?

Lucy Warner: No. (laughter)

Walter Orr Roberts: You've never been there?

Lucy Warner: No. Maybe we should go have a tour of the second basement.

Walter Orr Roberts: All right. Let's go here, and then we'll go to the --

Lucy Warner: We've got 15 minutes till you (inaudible)

Walter Orr Roberts: By the way, I brought this from Italy in my briefcase -- in my suitcase.

Nancy Gauss: Oh. Smuggled it in? Is that... (laughter)

Lucy Warner: (inaudible)

Walter Orr Roberts: No, not "smuggled."

Lucy Warner: Florentine (inaudible). Wonderful. Yeah, that is kind of nice.

Walter Orr Roberts: She gave it to me.

Lucy Warner: How nice.

Walter Orr Roberts: And she just --

Lucy Warner: That's wonderful.

Walter Orr Roberts: -- died last month. Or last fall.

Nancy Gauss: Thank you.

Lucy Warner: Now --

Walter Orr Roberts: This --

Lucy Warner: -- is this meant to be a table?

Walter Orr Roberts: That was to be a chess board.

Nancy Gauss: A chess board?

Walter Orr Roberts: (laughter)

Nancy Gauss: Boy, you'd need magnets --

Walter Orr Roberts: Because there were --

Lucy Warner: (overlapping dialogue; inaudible) never been a game of chess --

Nancy Gauss: -- on your chess pieces, though! (laughter)

Lucy Warner: -- played here.

Walter Orr Roberts: Yeah. And there were to be --

Lucy Warner: That's quite a monumental chess board.

Nancy Gauss: I'll say.

Walter Orr Roberts: Yeah. There were to be little -- I don't know what you call them, but

vertical holes so that the chess men snapped --

Lucy Warner: Wouldn't fall --

Walter Orr Roberts: -- in and --

Lucy Warner: -- over?

Walter Orr Roberts: -- wouldn't blow off.

Nancy Gauss: So you could --

Walter Orr Roberts: And --

Lucy Warner: So you could --

Nancy Gauss: -- leave it overnight and --

Walter Orr Roberts: Yeah.

Lucy Warner: -- play chess in a windstorm.

Nancy Gauss: -- resume...?

Walter Orr Roberts: And then you'd play a month-long chess game --

Lucy Warner: Well --

Walter Orr Roberts: -- and...

Nancy Gauss: Did it ever --

Walter Orr Roberts: It never --

Nancy Gauss: I guess it never --

Walter Orr Roberts: -- got built. Never. The chess board never got put there.

Nancy Gauss: Too bad. Now, this looks very Italian. I haven't --

Lucy Warner: Yeah. The archways.

Nancy Gauss: -- been out here, but the archways, and just sort of looking through, it looks very Italianate.

Walter Orr Roberts: Now, these windows, at the time they were built, were the largest pieces of plate glass ever cast --

Lucy Warner: Is that right?

Walter Orr Roberts: -- by (inaudible) plate.

Nancy Gauss: Now there's a fact for you.

Walter Orr Roberts: And they are a good fraction of an inch thick. And because of that, you don't hear anything. I don't know if you ever noticed how (inaudible) they are. It's like hitting concrete. They're so thick that the wind doesn't perturb them at all.

Lucy Warner: Well, you know, that's true. In my neighborhood, houses with big pieces of glass,

the glass does this in a windstorm.

Walter Orr Roberts: Yeah. Punch that one.

Lucy Warner: (laughter) And Greg will think I'm banging to get in. It's true.

Walter Orr Roberts: Now, you see, it's (inaudible) And I had expected that all of these patios  
would have big pots and trees and flowers.

Lucy Warner: Well, they should. Why don't they?

Walter Orr Roberts: Too much upkeep, I guess.

Lucy Warner: Well, that's [terrible?].

Walter Orr Roberts: The environment is pretty harsh.

Lucy Warner: Well, that's true.

Walter Orr Roberts: (inaudible)

Lucy Warner: It's very hard to grow containerized [things?], so...

Nancy Gauss: Yeah. Out here, it is.

Lucy Warner: Especially year-round.

Nancy Gauss: Thank you.

Walter Orr Roberts: Out on the patio where the fountain was to be. You see that those trees  
have had a really rough time to [live?].

Lucy Warner: There are locust trees? Is that right?

Walter Orr Roberts: No, not the locust trees. They're fine. In the fountain area, where the air  
swells around so much. They didn't ever -- you're in the way of --

Lucy Warner: Oops!

Walter Orr Roberts: -- [central?] --

Male 9: [Could one of you hit "down"?]?



Walter Orr Roberts: Oh, you're going in the --

Male 9: Yeah.

Walter Orr Roberts: -- elevator?

Male 9: Downstairs. Hi.

Nancy Gauss: Hi.

Male 9: How are you doing?

Nancy Gauss: Hi. OK. How are you?

Walter Orr Roberts: Where are you going?

Male 9: Down to 2B.

Walter Orr Roberts: OK. So are we.

Lucy Warner: Was it ever tried to plant things outside --

Walter Orr Roberts: Yeah. We had plantings --

Lucy Warner: -- in the planters, and that kind of things?

Walter Orr Roberts: -- in those big concrete things, but --

Lucy Warner: And they just didn't survive?

Walter Orr Roberts: No, the winds and the so on kept killing --

Lucy Warner: Wow, I've got to work on Susan. I think that's a great idea (inaudible).

Walter Orr Roberts: No, but I think if you did some research, you could figure out something  
that --

Lucy Warner: (inaudible)

Walter Orr Roberts: -- would take it.

Lucy Warner: Yeah.

Male 10: Hey! Good morning, Orr!

Walter Orr Roberts: How are you doing?

Male 10: Pretty good. How are you?

Walter Orr Roberts: Hi. This is the only long corridor. This was --

Lucy Warner: Because this is --

Walter Orr Roberts: -- (inaudible) bad weather. And you were supposed to be able to walk here all the way to the center of the parking lot indoors.

Lucy Warner: Well, this is the way people come in when the weather's bad.

Walter Orr Roberts: Right.

Lucy Warner: It's still the easiest access.

Walter Orr Roberts: And you were supposed to be able to go into a computer building and auditorium area.

Nancy Gauss: That was the conference center?

Walter Orr Roberts: Yeah, that was to be, yeah. It was to be a -- I've forgotten how many seats. Three hundred seats, a 400-seat auditorium in the middle of the parking lot. That circle, in that big circle. That you went into that, then you went up an inclined ramp that joined this corridor. See, now you're in 2B, right?

Lucy Warner: Yeah.

Walter Orr Roberts: Now, there's one floor below this.

Nancy Gauss: "Clean room -- do not enter." (laughter)

Lucy Warner: Oh, they have to keep them clean for experiments.

Walter Orr Roberts: Hi.

Male 11: Hello, Dr. Roberts!

Walter Orr Roberts: How are you doing? Nice to see you.

Nancy Gauss: Hi, Sam!

Sam: Hey. How are you doing?

Nancy Gauss: OK.

Sam: What are you guys doing now?

Nancy Gauss: We're taking a tour. Hi, Bob! How are you doing?

Bob: Fine, thank you.

Nancy Gauss: Good. You feeling better?

Bob: Oh, yeah. Yeah.

Nancy Gauss: Good to see you back.

Lucy Warner: Yeah.

Bob: Thank you.

Lucy Warner: Welcome back.

Nancy Gauss: Yeah.

Bob: Thank you, ladies.

Lucy Warner: We missed you.

Bob: Dr. Roberts giving you a tour?

Nancy Gauss: Yeah, he sure is.

Lucy Warner: Yeah, he sure is.

Bob: You couldn't ask for a better guy.

Nancy Gauss: Yeah.

Lucy Warner: Oh!

Nancy Gauss: My gosh!

Lucy Warner: (inaudible)

Walter Orr Roberts: You've never been in here?

Lucy Warner: No. I did a story for the [staff notes?] (inaudible), and Bob Locust (sp?) did a picture in here.

Walter Orr Roberts: Yeah.

Lucy Warner: This is the boiler room, huh?

Walter Orr Roberts: Right.

Nancy Gauss: This is the boiler room? Somebody can't spell "boiler."

(laughter)

Nancy Gauss: Maybe it's French. (laughter)

Lucy Warner: "Boil-i-er."

Nancy Gauss: "Boil-i-er."

Walter Orr Roberts: Someone's burning. And you're on the -- where that corridor comes out, this is the door opposite of where that corridor comes out that you go when you walk down to the parking lot. Yeah, that long corridor comes out on the next level up. If you walk past these two doors and go up the stairway here on the east end of the tree plaza, that's -- yeah.

Lucy Warner: What's all this stuff?

Walter Orr Roberts: Those are, I think, emergency electric generators driven by gasoline, or driven by diesel fuel. They're for emergencies. They come online when the power fails. I think that's a water purifier. I don't know what that is.

Lucy Warner: And what's up there? Is that the machine shop in there?

Walter Orr Roberts: That's just a little utility shop, yeah, where they do plumbing and stuff.

See, there is some of that glass plumbing. Now you're under the tree plaza. This is part

of the air conditioner. You can see the status of all of the utilities here.

Lucy Warner: This is the control room here?

Walter Orr Roberts: Yeah, control room for the entire thing. The entire lab.

Nancy Gauss: Does somebody have to monitor these all the time?

Walter Orr Roberts: Mmm-hmm, mmm-hmm. Well, no.

Lucy Warner: They probably (overlapping dialogue; inaudible)

Walter Orr Roberts: See, he's not here right now, but... Yeah, he comes and looks at them, and sees if everything is working.

Lucy Warner: Look at that.

(overlapping dialogue; inaudible)

Male 11: Hey, we've got a dude up there.

Walter Orr Roberts: All right. (inaudible) Hi.

Male 12: Hello.

Male 11: (inaudible)

Walter Orr Roberts: Yeah, that was the clean room, and (inaudible) doing research.

Lucy Warner: And it's not now?

Walter Orr Roberts: Yeah, it's still clean.

Lucy Warner: It's still? So is it being used?

Walter Orr Roberts: Yes. But it was used originally for the moon rock samples.

Nancy Gauss: Oh. Did we get those? Did we --

Walter Orr Roberts: Yeah, we had worked on the moon rocks.

Lucy Warner: Oh, neat!

Nancy Gauss: Oh.

Lucy Warner: Why did we do work on the moon rocks? What was...?

Walter Orr Roberts: We were trying to figure out the ancient solar activity from the isotope concentration in the moon rocks that had been sitting there forever unprotected by the atmosphere.

Nancy Gauss: Then after they worked on them, they shipped them off to the warehouse.

(laughter)

Lucy Warner: No they didn't!

Nancy Gauss: They're in some box somewhere.

Lucy Warner: Are you serious?

Nancy Gauss: No. (laughter)

Lucy Warner: They shipped them off to the Smithsonian, I think.

Nancy Gauss: They're in the same place as the (inaudible).

Walter Orr Roberts: I guess I have got to go.

Lucy Warner: All right. Well, thank you. That was actually --

Nancy Gauss: Thank you very much!

Lucy Warner: -- very informative.

Nancy Gauss: This was really --

Lucy Warner: It was very informative.

Nancy Gauss: -- informative and fun.

Lucy Warner: And fun! That's right.

Walter Orr Roberts: There used to be a 50 degree below zero room here.

Lucy Warner: Really?

Walter Orr Roberts: (inaudible) 40 or 50, run by Charlie Knight.

Lucy Warner: That's the cold room? I thought we still had a cold room.

Walter Orr Roberts: No. This is a big one. This is a great big one. We did all kinds of ice research. We had ice from Hokkaido, and we had ice from Alaska. We had 50,000-year old ice, and we had --

Lucy Warner: Really?

Walter Orr Roberts: -- ice -- yeah.

Lucy Warner: That's wonderful.

Walter Orr Roberts: Yeah.

Nancy Gauss: Well, now somebody still has the largest hailstone.

Walter Orr Roberts: That's Charles Knight.

Lucy Warner: That's probably in the cold room. The cold room is now down at 30<sup>th</sup> Street, isn't that right?

Walter Orr Roberts: I think so.

Nancy Gauss: Yeah. Yeah. Yeah, I believe it was --

Walter Orr Roberts: Charlie Knight has that --

Nancy Gauss: -- down at 30<sup>th</sup> Street --

Walter Orr Roberts: -- hailstone.

Nancy Gauss: -- where I saw it.

Walter Orr Roberts: I don't know if it's still intact, but I have a plaster cast of it.

Nancy Gauss: Yeah.

Lucy Warner: Do you?

Nancy Gauss: There's a lot of those floating around, little plaster casts.

Lucy Warner: Fifty degrees below zero -- good heavens!

Walter Orr Roberts: Yeah.

Lucy Warner: I mean, you'd have to really --

Walter Orr Roberts: Now, I've skied in (laughter) a temperature like that...

Lucy Warner: (laughter) Yeah. That's the wind chill factor, though.

Walter Orr Roberts: That was the wind chill factor up in Yellowstone.

Male 13: Hello.

Walter Orr Roberts: Going up?

Male 13: Going up.

Walter Orr Roberts: All right.

Male 13: You don't want to go down no further here.

Nancy Gauss: We've been down further.

Walter Orr Roberts: Where are you going to?

Male 13: B.

Lucy Warner: Well, I am going to where you're going to and you're going to, so that

(inaudible). Woops.

Male 13: 1B?

Walter Orr Roberts: 1B. So long.

Male 13: So long.

Walter Orr Roberts: So...

Lucy Warner: So that was very interesting.

Nancy Gauss: Yeah. Thank you --

Walter Orr Roberts: Great.

Nancy Gauss: -- very much.



Lucy Warner: Very interesting.

Walter Orr Roberts: Great. You can see I know every nook and cranny. (laughter)

Lucy Warner: You do.

Nancy Gauss: You do.

Lucy Warner: You do.

Nancy Gauss: You know your way --

Lucy Warner: Absolutely.

Nancy Gauss: -- around.

Lucy Warner: Current and past. (laughter) What's there now, what used to be there... Watch.

Walter Orr Roberts: Bye-bye.

Lucy Warner: Bye-bye.

Nancy Gauss: Bye-bye! Thank you very much. I've just got to get down to my house soon.

Lucy Warner: I think this is neat.

Nancy Gauss: Yeah. That was --

Lucy Warner: I think --

END OF INTERVIEW

**American Meteorological Society**  
**University Corporation for Atmospheric Research**

## **TAPE RECORDED INTERVIEW PROJECT**

### **Interview of Walter Orr Roberts April Day, 1985**

**Interviewer: Lucy Warner**

Nancy Gauss: We found that at the warehouse, hidden behind some shelving. Ron and I were down there looking for something else, and (laughter) we found that.

Walter Orr Roberts: Yeah. That's the original design for the NCAR building that I rejected.

Nancy Gauss: Oh.

Lucy Warner: Oh, it is?

Walter Orr Roberts: Yeah.

Lucy Warner: So this is the original?

Walter Orr Roberts: Yeah.

Lucy Warner: OK. Because I asked Bill Thompson (sp?), and he thought maybe it was a -- he remembered there being an even more monolithic single structure thing.

Walter Orr Roberts: Well, OK. This is the second one. The original one was like this all the way across, and then two more modules like that.

Lucy Warner: So it was absolutely --

Walter Orr Roberts: And --

Lucy Warner: -- the same?

Walter Orr Roberts: Absolutely. And then this was the first modification. And the original was only just sort of a pencil sketch. And we said -- Phil and I and others said -- you

know, that's still too all together. And so this part came way down, and... But you see, this is the North Tower. From this part, [it's down?] low like that, and then the part went out behind there. And this design, there's another group of towers like this facing that way on the other end, separated by something about like that.

Lucy Warner: Well --

Walter Orr Roberts: But you can see --

Interviewer Name: -- you got a lot nicer building, I can tell you, for...

Walter Orr Roberts: Yeah. You can see there's a generic resemblance to the present building.

Lucy Warner: Well, and the crow's nests.

Walter Orr Roberts: Yeah.

Lucy Warner: But the differences are what interests me. You look at it the first time, and it looks very similar to what we've got. The more you look at it, the more you realize --

Walter Orr Roberts: What are the differences.

Lucy Warner: -- that ours is a much more sophisticated, complicated --

Walter Orr Roberts: Yeah.

Lucy Warner: -- intriguing design.

Walter Orr Roberts: And loosened up.

Lucy Warner: Yeah, yeah. Ah, well, that's great. I mean, this really helps me visualize all of the correspondence I have been reading through. And I have to ask you about (laughter)

--

Nancy Gauss: The picture on the wall?

Lucy Warner: Yeah. Are they buffalo, (inaudible)?

Walter Orr Roberts: No, they're cows.

Lucy Warner: OK. So there were cows on the mesa --

Walter Orr Roberts: There were cows --

Lucy Warner: -- whenever we --

Walter Orr Roberts: -- on the mesa when --

Lucy Warner: -- took over the site.

Walter Orr Roberts: Yeah. So I...

Lucy Warner: Oh. So they really were there, then. We...

Walter Orr Roberts: They were still there, yeah.

Lucy Warner: Well, to me, they looked like buffalo, and I thought, "Well, this is interesting, that a New Yorker like (inaudible) coming out to Colorado and thinking, 'Oh, there are buffalo'." (laughter)

Walter Orr Roberts: No. When Mr. (inaudible) first came up on the mesa, there were cows all over it.

Lucy Warner: Oh, I see. What is that circular --

Walter Orr Roberts: That's the driveway --

Lucy Warner: -- feature? Oh, OK.

Walter Orr Roberts: -- circle. But you notice that the front entrance is off on a little ramp. See, the --

Lucy Warner: Yeah.

Walter Orr Roberts: -- here is the circle, and you had to walk across that ramp to get in there. I mean, that's the main entrance.

Lucy Warner: It looks like a gigantic main entrance. I mean, it's really disproportionate. The

scale is superhuman.

Walter Orr Roberts: Yeah. I don't think it's any bigger than that.

Lucy Warner: Isn't it?

Walter Orr Roberts: Well, maybe it is.

Lucy Warner: It looks like it.

Walter Orr Roberts: Let me look.

Lucy Warner: It looks like this.

Nancy Gauss: Yeah.

Lucy Warner: Except without the stairs.

Nancy Gauss: Right. It looks there like it's on those huge glass doors (inaudible) envisioning.

Walter Orr Roberts: It's not really much different.

Lucy Warner: It looks like this, except with (inaudible) stairs.

Walter Orr Roberts: Yeah.

Lucy Warner: It's interesting, because you can take -- I hadn't thought of that until I was sitting

there with that, and you look at that and you see that some of it is --

Walter Orr Roberts: Yeah. Some of the same stuff.

Lucy Warner: -- (inaudible) are there, but (inaudible)

Walter Orr Roberts: Exactly. Someone widened it up?

Lucy Warner: Yeah, yeah.

Walter Orr Roberts: And lowered it down?

Lucy Warner: That's right. Where does the ramp lead to?

Walter Orr Roberts: The parking lot.

Lucy Warner: The parking -- oh, OK.

Walter Orr Roberts: Yeah. And you see there's...oh, wait a minute. Wait a minute. No, that's right. That's right. But I don't see where the cars come into that circle.

Lucy Warner: I don't, either. Maybe...

Walter Orr Roberts: It looks as if the cars --

Lucy Warner: This looks like --

Walter Orr Roberts: -- belong there.

Lucy Warner: -- a walkway.

Walter Orr Roberts: Yeah.

Lucy Warner: But you know, there was discussion about having the road come around the back -

-

Walter Orr Roberts: Was there?

Lucy Warner: -- in some of the correspondence. So he may have thought the road was going to come a different way.

Walter Orr Roberts: Yeah.

Lucy Warner: So the way the service road is.

Walter Orr Roberts: I honestly don't remember now what's -- I thought that circle was where the cars came in and stuff.

Lucy Warner: It doesn't -- well, the parking lot obviously is down here.

Walter Orr Roberts: Yeah. The parking lot's down here.

Lucy Warner: So the road must be...

Walter Orr Roberts: And that's an elevator down. (inaudible) forgotten that. Later, that was

brought down to the ground, and then there was supposed to be a tunnel underneath it so you could walk up from the parking lot without being outdoors. But that never got built. See, we were going to have an auditorium down in the center of the parking lot. That's the big circle. And that was to be the auditorium and computer center down there. And that never got built, either. And then you would have been able to walk down to the auditorium without going outdoors.

Lucy Warner: Well, I don't have a whole lot of other things to ask you about today. I have a couple of sort of nuts and bolts questions. First of all, have you talked to Pei any more about coming during the 25<sup>th</sup> --

Walter Orr Roberts: No, I haven't.

Lucy Warner: -- anniversary?

Walter Orr Roberts: He's abroad now.

Lucy Warner: Oh, that's right.

Walter Orr Roberts: Yeah. He doesn't --

Lucy Warner: Because I --

Walter Orr Roberts: -- get back until May.

Lucy Warner: -- am talking with Ron about the possibility of going to New York to interview Pei. But I think the first priority is to get him here for the 25<sup>th</sup> anniversary, and I just wanted to be clear --

Walter Orr Roberts: Well --

Lucy Warner: -- that they're not going to conflict. I mean --

Walter Orr Roberts: -- we don't have --

Lucy Warner: -- I don't preempt that.

Walter Orr Roberts: Yeah. We don't have a date for him to come. He said he couldn't think about it until after he got back on May 15<sup>th</sup> or whatever the date was.

Lucy Warner: OK, yeah. Sixth.

Walter Orr Roberts: The sixth, was it?

Lucy Warner: Yeah. That's what his secretary said.

Walter Orr Roberts: Yeah. But he said there were some days when he could see you in New York before that.

Lucy Warner: That's right. Well, I'm happy to go to New York, more than happy to.

(laughter)

Lucy Warner: I would be delighted to go to New York. But I just wanted to reassure Ron and Susan that that didn't mean Pei wasn't going to come here.

Walter Orr Roberts: Oh, no. No --

Lucy Warner: They're two entirely separate --

Walter Orr Roberts: -- that wouldn't affect that.

Lucy Warner: -- (inaudible) OK. That's all I wanted to know. Also, I have a list of Pei buildings in Denver just from various articles, and I think some of those overlap. I think some of them are referring to the same ones. But I don't know. I know (inaudible); I know the Denver Hilton.

Walter Orr Roberts: I know --

Lucy Warner: I don't know --

Walter Orr Roberts: -- that is -- he did that one.



Lucy Warner: Yes. Well, I know they're all Pei, but what I need to know is how many of those  
are the same buildings, (laughter) you know what I mean?

Nancy Gauss: Oh, I --

Lucy Warner: Is Zeckendorf Plaza --

Nancy Gauss: -- could probably help you with that.

Lucy Warner: -- the same thing as the Denver Hilton and the (inaudible)?

Walter Orr Roberts: You know, he only did the first sketches on the Denver Hilton. He didn't  
do the final design. In fact, he hated the final design. And I don't really know.

Nancy Gauss: I can find that out for you --

Lucy Warner: Could you?

Nancy Gauss: -- real easily. Yeah.

Lucy Warner: Could you? Oh, wonderful.

Walter Orr Roberts: Yeah.

Lucy Warner: (overlapping dialogue; inaudible) looking.

Walter Orr Roberts: The only one I know of for sure is that one.

Lucy Warner: OK. Find out where they are, and all that stuff?

Nancy Gauss: Yeah.

Lucy Warner: Oh, you're wonderful! (laughter)

Walter Orr Roberts: His most famous is, of course, the --

Lucy Warner: (overlapping dialogue; inaudible) (laughter)

Walter Orr Roberts: -- Place Ville Marie. His most famous is the Place Ville Marie in  
Montreal.

Lucy Warner: Right. Right. Well, he's done quite a bit of stuff since then, too.

Walter Orr Roberts: But the Place Ville Marie was his first great triumph as an architect, while he was still working for Zeckendorf.

Lucy Warner: OK. But that was a separate project? Did he do that for Zeckendorf?

Walter Orr Roberts: Yes.

Lucy Warner: Yes, he did. Yes, he did.

Walter Orr Roberts: Yes.

Lucy Warner: That's right.

Walter Orr Roberts: That's a huge complex.

Lucy Warner: Yes. I remember reading about it. They're all mushing in my mind, because (laughter) I read them a few weeks ago, but that's the one where he took the old part of the city and folded in...

Walter Orr Roberts: Mmm-hmm. You know, you can just walk around underground, and a lot of buildings are connected. It's beautiful.

Nancy Gauss: I had one other question about the photograph. We have a piece of correspondence from Ed Wolf (sp?) stating that he made a presentation, I guess, to the Board of Trustees right after Pei was selected. And there was a reference to a sketch or some type of audiovisual aid that was used in that presentation. I was wondering if this might have been the sketch that was presented to the Board?

Walter Orr Roberts: It could be. It could be. I couldn't swear to it, but I think it probably was, because this was the first really worked out drawing.

Lucy Warner: You know something interesting? I'm sitting here and I'm looking at the

photograph behind you of the building as constructed, and look at this. Look at this.

That is this.

Walter Orr Roberts: (laughter) Yeah.

Nancy Gauss: Oh, yeah.

Lucy Warner: There's your circular --

Walter Orr Roberts: Yeah.

Lucy Warner: -- drive.

Nancy Gauss: Oh, you're right.

(overlapping dialogue; inaudible)

Lucy Warner: I may want to borrow this picture and put those side by side, because I think it's  
fascinating. He's taken those same ideas and those same shapes --

Walter Orr Roberts: See, he's --

Lucy Warner: -- and he's moved them, mixed them around, and broken them up. Isn't that  
interesting?

Nancy Gauss: Yeah, that is.

Walter Orr Roberts: Yeah.

Nancy Gauss: That's very observant. It's almost like that one whole section --

Lucy Warner: That's right.

Nancy Gauss: -- (inaudible) half of the building has been taken --

Lucy Warner: And that is, in fact, our main entrance. That's the other side of the [fountain?]  
plaza, right here.

Walter Orr Roberts: Yeah.

Lucy Warner: (overlapping dialogue; inaudible)

Walter Orr Roberts: That's right. This one is from a higher up view than this one. This one is from -- because you see how high this projects on this, and that it's really only at this height.

Lucy Warner: This is looking at the building from...?

Walter Orr Roberts: This is the --

Lucy Warner: Here is your main entrance.

Walter Orr Roberts: No, no. Here is the main entrance.

Lucy Warner: Right. Yeah. So that's (overlapping dialogue; inaudible)

Walter Orr Roberts: Yeah. That's the (inaudible) plaza. That's --

Lucy Warner: -- the (inaudible) plaza there.

Walter Orr Roberts: -- right here.

Lucy Warner: So (inaudible) that's exactly what (inaudible)

Walter Orr Roberts: Yeah. But we got that North Tower away.

Lucy Warner: That's right. You broke it up and you --

Walter Orr Roberts: And we broke it up through here --

Lucy Warner: [Varied?] the towers.

Walter Orr Roberts: Yeah.

Lucy Warner: That's right. Well, I may use this. (laughter)

Nancy Gauss: Oh, yeah? Well, good.

Lucy Warner: I may use it.

Nancy Gauss: Good.

Walter Orr Roberts: (laughter)

Nancy Gauss: Well, we --

Lucy Warner: Because I think that's really interesting.

Nancy Gauss: Yeah.

Walter Orr Roberts: It's kind of dirty.

Lucy Warner: Yeah.

Nancy Gauss: Yeah.

Lucy Warner: No, it's filthy.

Nancy Gauss: We need to clean it up.

(overlapping dialogue; inaudible)

Lucy Warner: It came up from the warehouse, and I didn't do a thing to it.

Nancy Gauss: It's in better condition than a lot of the documents we have.

(laughter)

Nancy Gauss: Yeah, that was quite a find.

Walter Orr Roberts: Yeah, I'm pleased --

Lucy Warner: It sure was.

Walter Orr Roberts: -- to see it. I hadn't remembered it. Well, what else is on the docket?

Lucy Warner: That's all I've got.

Nancy Gauss: That's about it. Yeah. I don't have anything else, so...

Lucy Warner: I started to write this morning, so I may come around again with little questions as

I move on.

Walter Orr Roberts: Let's see now... I can't remember --

END OF INTERVIEW