



## **RONALD L. AND MARY L. RICHMOND**

**INTERVIEWED BY CHARLOTTE E.  
ERWIN**

**May 19, 2012**

**ARCHIVES  
CALIFORNIA INSTITUTE OF TECHNOLOGY  
Pasadena, California**



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### **Subject area**

Seminar Day, alumni, students, pranks

### **Abstract**

On Seminar Day—Caltech’s annual reunion event—May 19, 2012, for the first time the Caltech Archives and Library offered alumni/ae the opportunity to record mini-interviews with Archives’ staff. Nine people participated, including one alumni spouse and one daughter. These alums held bachelor’s, master’s and doctoral degrees across several divisions, with engineering marginally in the lead. One former student who transferred out of Caltech came back to relate how well his Caltech years had served him in his later studies and career in psychology. Ranging from 10 to 15 minutes in length, the interviews typically relate stories or episodes from student years. Favorite topics include pranks and traditions, some of which have died out. Alumni also reflect on professors and classes which were memorable and on the unique intellectual stimulus that a Caltech education provides. Readers will find that the transcripts of the short interviews reflect the personal and colloquial tone at which the event aimed.

## **Administrative information**

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**RONALD L. RICHMOND**



**MARY L. RICHMOND**

**CALIFORNIA INSTITUTE OF TECHNOLOGY ARCHIVES**

**ORAL HISTORY PROJECT**

**INTERVIEW WITH RONALD L. AND MARY L. RICHMOND**

**BY CHARLOTTE E. ERWIN**

**MAY 19, 2012**

**CALTECH ALUMNI SEMINAR DAY**

**PASADENA, CALIFORNIA**

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**CALIFORNIA INSTITUTE OF TECHNOLOGY ARCHIVES**  
**ORAL HISTORY PROJECT**

**Interview with Ronald L. and Mary L. Richmond**  
**MS, 1953; PhD, 1957**

**by Charlotte E. Erwin**  
**Pasadena, California**

**May 19, 2012**

**Begin Tape**

ERWIN: All right. Well, welcome to reunion. And you're going to tell us your name and class.

RONALD: My name is Ron Richmond and I only came to graduate school at Caltech. I got a master's degree in aeronautical engineering in '53 and a PhD in 1957.

ERWIN: Okay. And your wife, Mary, is joining us.

MARY: Yes, and I have a PhT.

RONALD: "Putting husband through." They gave her that certificate when they gave me my PhD.

ERWIN: Very good! Very prestigious.

MARY: I have a big honor. And I feel like I was double honored because the wives helped me get a driver's license. They helped us – he was very ill the final year of his school here. He got appendicitis. It was very bad. They made sure I got to the right place to have it [the medical treatment] done. Just wonderful ladies. We couldn't have done it without them.

ERWIN: Good. Very good.

RONALD: My graduation week for the PhD, I was down at Douglas in Long Beach, signing in to go to work, and I got so ill, I couldn't finish the physical. I'd never really been sick in my life so

I drove home to Pasadena from Long Beach and stopped once along the way. But not knowing hospitals, I should have gone to the hospital, but I didn't. Went home, and we came to the school doctor the next day. That was on a Monday, and then on Tuesday we came to the school doctor. And anyway, I wound up so ill that for Friday for graduation, I could not stand up. I could not come to my graduation ceremony. On Saturday, my wife said on the phone to the school doctor, you haven't even done a blood test. So the doctor did a blood test and found the white count was sky high. He called a couple of surgeons in Pasadena and the next day they got me into the Catholic Hospital, which was closer to where we were living. I went in there and one of the two doctors was named Big Red Holman, and he had big hands compared to the guy that had been examining me all week. He examined me and I went through the roof. They immediately put me in the hospital with a stomach pump and gave me morphine to stop the pain, and I was in that hospital for about ten days. Before that all started, I had a rigid stomach wall, just like peritonitis. So they sent me home after about ten days to try to get built up in order to have an operation. Well, it went on all summer and I was still 102 in the morning, 104.5 in the afternoon fevers.

ERWIN: Terrible!

RONALD: And the doctors came a couple of times to our little house on Bresee Street in Pasadena and gave me morphine to stop the pain. Anyway, finally, it calmed down a lot, but I still had some fever. Went to the Huntington Memorial Hospital and they gave me whole blood transfusions, and finally the temperature was down, my stomach wall was softer, and they did a five-hour-and-forty-five-minute operation for an appendix that started in the right place and ended clear over on the other side of my body.

ERWIN: Good heavens!

RONALD: So [laughs] when I got through with all that, my six-foot-one-inch frame weighed 127 pounds.

MARY: But also the Catholic Hospital wanted us to pay the entire bill now.

RONALD: They weren't going to let me out of the hospital without paying the bill—

MARY: Unless he paid.

RONALD: —and the Caltech women came and told them what we would do. They said, “You’re going to let him out. And they will pay X amount a month until it’s paid off.”

ERWIN: And so your friends here, the faculty and other student wives and all – what was this woman’s group that supported you?

RONALD: It was the Caltech Women’s League? Or something like that?

MARY: It was some sort of a club.

RONALD: It was older women that knew Caltech and had been here a long time.

ERWIN: Ah ha! I think it was either the Women’s Club, or there was also something called the Caltech Service League.

MARY: It might have been.

ERWIN: One of those two organizations.

RONALD: It was women that knew how to get things done. [Laughter]

ERWIN: They came to your rescue!

MARY: Oh, they sure did!

ERWIN: So you’re telling me that the Caltech doctor could not diagnose—

RONALD: No.

ERWIN: —an appendix attack?

RONALD: He was an internal medicine doctor. And for, I think, about ten years after all this I wouldn't go to an internal medicine doctor. [Laughter] I only went to surgeons with whatever I had.

ERWIN: I feel this is a medical history at this point, but it was so – did you feel that you were impaired afterwards? I mean, did you have a lot of infection that stayed with you?

RONALD: Not totally. Well, I wound up with tubes hanging out of my abdomen, for, oh, two or three weeks after the surgery in Huntington Memorial Hospital. I have not had any recurrence of that.

ERWIN: Okay. So your organs basically recovered?

RONALD: They have and subsided.

ERWIN: Oh, that's good! I just wanted to be sure.

RONALD: Here I am, 175 pounds and still six-foot-one and eighty years old.

ERWIN: Yeah, yeah. You look good!

MARY: Years and years later they invited us to a graduation, and Ron got to—

RONALD: Finally got to wear a cap and gown and sit down in an audience here.

ERWIN: Oh, I see; that was the next part of the question: what, then, subsequently did they do for your graduation?

RONALD: Well, it wasn't for me particularly, a whole bunch of people were allowed—

MARY: He got the privilege to walk.



RONALD: I finally got to wear a cap and gown. So anyway.

ERWIN: But you've got your degree. They did award you a degree.

RONALD: I got my degree. I did go to work at Douglas Long Beach for two years and worked at Ford Aerospace in Newport Beach for almost thirty years. I created and taught a course in aeronautical design at UCI—University of California, Irvine— for two years and then because the state budget was going down, my half-time adjunct associate professor at UCI looked like it would maybe go to zero instead of full-time, which is what I wanted. Anyway, so I went out and got another industry job at Brunswick Defense in Costa Mesa for six-and-half years, and then finally retired a second time.

MARY: And then he made sure I earned my living. I was volunteering at the Newport Beach Library and volunteering for all sorts of stuff. He came home one day and he said, "It's time for you to stop volunteering. Go work at the library for pay."

ERWIN: Okay. And did you?

MARY: Yes, for ten years.

ERWIN: Oh, good!

RONALD: She went to the UCI Library, where she had a lot of friends, and they hired her for ten years. At the end of that ten years, that was right about the time when they were trying to divest some of the employees, so she wound up with a golden handshake and was credited with seventeen years of service, even though she had only had ten. So that was kind of nice.

ERWIN: That's good. Well, you spent a good amount of time in libraries!

MARY: Yes. All my life.

RONALD: Oh, yes.

ERWIN: Well, where we're sitting, right now, of course, is Caltech's Library and—

MARY: Yeah. We always come in here whether we just stop for a minute—

RONALD: I come to visit my thesis. [Laughter]

ERWIN: Good, good.

RONALD: You people actually put my thesis online, so that I was able to get it at home.

ERWIN: Well, that's the new thing.

RONALD: And transmit it to my son, who is an airline captain.

ERWIN: Very good. Well, we hope we'll gather enough interviews and stories today to make a little sort of audio collage, if you know what I mean. But we probably won't put all the audio online, but we'll put the transcripts online, so people can read them. And that's why we asked you to sign here that you would agree to that.

RONALD: Okay. Now whatever has happened in here will be audited, I mean edited?

ERWIN: Edited slightly, you know, to get the "ahhs" and the "oohs" out, and the commas in, and then we will put it out for people to read your story.

RONALD: Well, I was thinking the interview would be different than this as to, why did I come to Caltech?

ERWIN: Well, it could have been that. We still have a few minutes, so do you want to tell that story?

RONALD: At the end of getting a bachelor's degree in mechanical engineering at Berkeley, with an aeronautical option, there still was not anywhere near enough aeronautical course work to

satisfy me. I applied both to Caltech and to UCLA. I was offered entry to either one of those, and I chose Caltech because they had a big reputation in aeronautics in World War II.

ERWIN: Definitely. Von Kármán was here.

RONALD: He wasn't physically here when I came here, but he was still associated with it [Caltech].

ERWIN: He may have been at AGARD [Advisory Group for Aerospace Research and Development]. After World War II, he did a number of big-time jobs elsewhere. [Von Kármán chaired AGARD in 1951-1963.]

RONALD: Right. So I was here, and the fifth year, where I got the MS in aeronautical engineering, still wasn't enough aeronautical knowledge. [Laughter] And I went another four years for the PhD.

ERWIN: Well, who was your thesis advisor?

RONALD: Well, the eventual thesis advisors were Dr. Donald Coles and there was a second one. He's now passed away. Oh, I can't think of his name [Lester Lees, named below]. Anyway, they were my advisors. My thesis was in two pieces. I ran the subsonic Merrill wind tunnel in the causeway between Firestone and Guggenheim for studying the boundary layer on a long cylinder in flow that was parallel to the cylinder that crossed it. That was early. And then later, I built models to go in the hypersonic wind tunnel at Mach 5.8. I actually built one with a floating element inside of a quarter-inch diameter cylinder to measure the skin friction, where you have a large boundary layer compared to the size of the model and prove that the skin friction on cylinders that way was several times the skin friction of a flat plate at the same momentum thickness Reynolds number.

ERWIN: So was that, did that eventually become your thesis then?

RONALD: That was my thesis. And that's the one you have in the library.

ERWIN: Have you been over to Guggenheim recently? It's all renovated.

RONALD: Well, each year when we come, we come and look, but the old models, the one with the quarter-inch diameter floating elements, and so forth, were there maybe five years ago. We came last year—or maybe it was this year—to see a memoir session for Dr. Coles. [Refers to the Donald Coles Lecture in Aerospace, May 13, 2011.] And the other advisor was Lees, and he's not a doctor. He was an MS. Lester Lees.

ERWIN: Lester Lees.

RONALD: Coles asked for any models that we had to come and be put in a demonstration area. I looked every place in Guggenheim and all those models are not there anymore.

ERWIN: Well, we have a few in the Caltech Archives, but only a few very small ones.

RONALD: The main part was in a wood container, like this, and it had the long model with the floating element in it, and maybe some other auxiliary stuff that was outside the box.

ERWIN: They may still have it over there in the basement, somewhere.

RONALD: The basement of which building?

ERWIN: Guggenheim. I'll ask—

RONALD: Of Guggenheim. Well, I know it was down one or two floors where I had seen it several years back.

ERWIN: Okay. I'll put out a word to see if they have any more models that they're hiding over there. [Ron laughs.] It's just that they don't have a place to put them. But then eventually things like that do get forgotten, so it's nice to bring attention to it.

RONALD: So, anyway, working history in industry has been personally rewarding. I got to develop things for missiles and a few for aircraft. But the money for aircraft after World War II

took a nosedive and all the money was going into missiles. Even though aircraft were my long-lived desire, I did a lot of missile work.

ERWIN: Yes. All right. And you've been retired for some—

RONALD: Well, for a while. I retired early from Ford Aerospace because they were collapsing and went to UCI to teach aeronautical design. Then the budget looked like it was collapsing and rather than sit and mess around there, I went to another aerospace job. Brunswick Defense had several defense plants around the country. The one in Costa Mesa, which was closest to where we lived, was systems. They had flying systems and ground radar systems. They had briquettes of material with inserts in the material that would go on the side of a submarine to stop or absorb sonar energy, and so forth, and also to stop metal clanking inside the submarine from getting out.

ERWIN: I see. So these were anti-detection devices.

RONALD: Yes. Devices. Right.

ERWIN: Well, you've done a lot of different and interesting things, it sounds like.

RONALD: Yes, I have.

ERWIN: Well, I'm very glad you stopped by today and this is only a short oral history. I'm sorry we're not having time to do your entire life, but I think we got a nice piece. So I think we'll stop there.

RONALD: Okay.

**[Tape ends]**