

**Transcription of Oral History Interview with
CHARLES J. A. HALBERG, JR.**

July 15, 1998

This audio oral history interview is being conducted on Wednesday, July 15, 1998, with Professor Emeritus Charles J. A. Halberg, Jr. at his home in Carlsbad, California. This is a follow on of an earlier videotape that was conducted on July 8 in Riverside.

My name is Jan Erickson. I work in Chancellor Raymond L. Orbach's office. He is the eighth chief administrative officer of the Riverside campus.

Erickson: This is a continuation of the videotape we conducted about a week ago. Dr. Halberg, you mentioned on the videotape that you have a nickname, "Doon." Would you tell us a little about that and how you got it?

Halberg: Sure. Why don't you just call me Doon instead of Dr. Halberg.

Erickson: OK. Alright.

Halberg: Well, when I was very young ... I am a junior. My father was named after his father and his two uncles, my great uncles and my grandfather, who were Carl, Johann and August. They came from Sweden, and with the Anglicization, his name was Charles John August Halberg, and I became Charles John August Halberg, Jr.

But in those days, it was fairly common when one was a junior to call the child Junior, and I was so called. I have a sister who's about three and a half years younger than I, and she couldn't say Junior—she said Dooner. And so Dooner I was

Halberg: for a long while and then it became Doonie. Then I got older and I did not like the diminutive, so it became Doon.

And then for many years, I was called Chuck and Charles and Charlie. I didn't really care that much for Chuck and Charlie, so when I went to Pomona College, I decided to go by Doon, my nickname.

And it was there that I met Conway Pierce and was known to him as Doon. So when I came to Riverside, I was introduced to Bob Nisbet as Doon Halberg (and Gordon Watkins and so forth). That's how it came about.

Erickson: Just continued. I see. When you decided to come to Riverside in 1955, what was it that attracted you to Riverside?

Halberg: Well, I don't know. At the time, I was an associate at UCLA and was a non ladder faculty appointment there for a year, and I was so busy teaching, I guess, at my first full time teaching job at a university.

Oh, I had taught at Pomona some years earlier, but I didn't really think about it much until Conway Pierce came in one day—the day before Thanksgiving, I think, in 1954. He made an appointment and talked to me (I think we talked about this earlier) and after he had left, we were in the hall (*Royce Hall*) there at UCLA that's just been ...

Erickson: You said Bancroft earlier.

Halberg: ~~I think perhaps it is Bancroft.~~ *I was wrong; it was Royce Hall.* The next cubicle to ours housed two senior, older professors, Paul H. Dallas and George Sherwood who were founding fathers of the UCLA Mathematics Department. In fact, they had started the Mathematics Department when UCLA was located on Vermont Avenue where Los Angeles City College is now. But they were the founding fathers of the Mathematics Department.

Halberg: Shortly after Conway left, I heard a knock on my door, and these two elderly gentlemen came in. They were about my age now.

(laughter)

But they were very elderly to me then! They said, “We could not help overhearing your conversation with Professor Pierce. We just wanted to tell you that we think it would be a wonderful thing for you, and we hope that if you do accept it, you will have as much fun building a math department at Riverside as we have had here at UCLA.”

Erickson: Isn't that great.

Halberg: So, one of the things that made Riverside attractive to me was being in it at the beginning and helping mold and build the department. I had, at the time, the idea of being the Mr. Chips of Pomona College, sort of teaching and ... Later Pomona College did try to get me away from Riverside after I had been there four or five years.

Erickson: Is that right?

Halberg: But I decided by that time that I really wanted to stay at UCR. The opportunity to be in at the beginning to help create something and to found the department there was very attractive to me.

Erickson: You mentioned Pomona. I wonder if you would compare ... the fact that you were an undergraduate at Pomona and then taught at UCR. Would you compare those two?

Halberg: Pomona College in many ways was, and I think still is, sort of an ideal undergraduate college. Unfortunately, it is also a very expensive place to go. I was able to go there because I was there under the GI Bill, and I am very grateful that I was able to. My mother had been a student there.

Halberg: It was a college, when I started there, that was close ... it's over a hundred years old now ... but at that time ... I think it was founded in 1878 or something like that and had a remarkable record for that period.

There were quite a few famous people in government and arts and so forth and academics who had gone to Pomona College.

My mother was a member of the Class of 1910, though she didn't graduate there. She left Pomona her senior year and spent her senior year at Berkeley and graduated from there. She spent four years at Pomona though, because when she was there, they had a prep school the year before beginning regular college.

Erickson: Oh, they did?

Halberg: She went to that for a year. I also got to know Dr. Blaisdell, who was not the founding father of Pomona College, but the one who decided to try to make it the University of the West. That was his great ambition to collect small colleges there around Pomona College. There was the Claremont Graduate School and Claremont College for Men and Claremont McKenna College and Scripps College and the various other colleges that followed there largely due to his work.

It was great fun talking ... he was quite old by the time ... I think really old—in his nineties when I knew him. I remember at a dinner one night at the home of the head of the Mathematics Department at Pomona, Chester Jaeger, that I was sitting next to Dr. Blaisdell. He confided in me and said, “If I ever get a chance to come back, I'm going to be a mathematician.” (chuckle)

But Pomona was an old college, sort of ivy covered halls. The only thing ivy covered about Riverside at that time was the Citrus Experiment Station building, which looked like an ivy college edifice. The rest of it looked very new and lots of cement and was not terribly attractive. It's become a beautiful campus largely due to Dorothy Dunbar, who ... I don't know

Halberg: whether you call it landscape architect, I guess, was her title. She did what I think was a fantastic job.

Erickson: Now she was from the city of Riverside though rather than the campus?

Halberg: I don't know how she came in. I think Al Haight was head of Architects and Engineers, and it probably was their office that hired her to layout the work for that. I don't know what Dorothy was doing before or what she did after. I knew her during that period we were on the Board of Directors at the University Religious Center together for a period and became good friends. But I have often thought what a fantastic job she did when I see how beautiful our campus has become.

Erickson: Did you get involved with her because of your interest in botany, too?

Halberg: No, I think basically most of my contact with Dorothy was on the Board of Directors of University Religious Center. Now they call it Watkins ...

Erickson: Watkins House?

Halberg: Yes. And at that time it was just a religious center. We had a great many people involved from all the faiths. I think we had a rabbi, a Catholic priest, ministers from most of the Protestant denominations. I represented the Presbyterian church. We did some very fine things at that time. I am sorry it disbanded.

Erickson: Well, I am confused, because I thought it was the present-day Watkins House? Is that not correct?

Halberg: Yes.

Erickson: But that is still in existence.

Halberg: Yes, but it's not a university religious center.

Erickson: Oh, I see what you are saying.

Halberg: Now it's been used for a lot of things, among them Education Abroad, with which I was involved when at one period I was Director of the University of California Study Center at Lund and had my Associate Director in Bergen, Norway. So, I enjoyed that very much, that period of my life.

Erickson: How many students did you have?

Halberg: I had thirty two one year and thirty four the other. The appointment was always for two years, and it was considered quite an honor to get such an appointment. I was eager to get it. I think the fact that I had a Swedish wife and spoke Swedish was helpful in getting that position. I enjoyed it very much. Sweden is a place I particularly enjoy.

Erickson: How would you say that the math curriculum has changed over the years? Is it to accommodate the students' interests at the time?

Halberg: Well, in the beginning we were a small liberal arts college under the wing of the university. We did not have a graduate program, and we had a very traditional undergraduate course. Among other things different from now is that we required the students to write a senior paper, which couldn't be classified as actual research, but research of a sort perhaps ...

Erickson: It was pretty extensive, wasn't it?

Halberg: Not publishable research, though some of them came close to being publishable. I think the students worked very hard and I think felt a real sense of accomplishment. I have many of them in my files somewhere, copies of these reports.

I remember Alice Huffman, one of our early students who later was a Professor of Mathematics at Cal Poly, wrote her senior thesis under me. I had dozens of students, and I really enjoyed working with her. I think it was fun. It was helpful too because later when we had graduate work, I already had some experience working with the students on papers and things.

Erickson: Did you grade all those?

Halberg: Oh, yes. We read them very carefully. In fact, a couple of times we made the students go back and redo them because they were inadequate or incorrect.

Erickson: Did a group of you review them?

Halberg: (smiling) There wasn't much of a group. At that time Vernon Kramer and I and Dick Gilbert, who we had recruited from UCLA actually the year before he completed his Ph.D., was teaching at Riverside. And then Howard Tucker joined us shortly after that. There were basically the four of us who ... I think at least two of us read each paper, perhaps three read each of the papers. Considerable amount of reading.

Erickson: I'll say. Because they were long weren't they?

Halberg: I don't remember what the minimum length was, but as I recall they tended to be something like twenty to thirty pages of double space.

Erickson: Oh, I thought even longer.

Halberg: Some of them were, but I think that was a minimal requirement.

Erickson: I see. During the time that you were the Vice Chancellor for Student Affairs, could you talk a little about the different programs that you established?

Halberg: There were a number of things. I remember one of the things we established was the Free Speech Center on campus. At that time there was student unrest at Berkeley and they were trying to foment a little unrest down at Riverside too. The students were picketing the administration building when I was going to lunch one day. They said they wanted a free speech area, so I said that when I got back from lunch we would sit down and talk about it. I came back and took about three or four of them in my office, and we sat down, and I asked them where they

Halberg: would like the free speech area and how many free speech areas they wanted. They were a little overwhelmed to think they could have more than one.

Erickson: I'm sure.

Halberg: I told them it was quite all right to have free speech areas. The main consideration had to be that they would not impede the progress of education, that they wouldn't be in the way of students going between classes and wouldn't interfere with classwork and so forth. It was sort of amusing.

Finally I insisted that they have at least one, and we had one built in what later became sort of a parking lot by the Barn. We had a platform built, set up about three or four feet above the ground level with a railing around it and some steps up to a podium, I believe, at the top. It was used slightly, but not very much. And I think we also had a couple of other places on campus designated as free speech areas.

We did insist at the time on bulletin boards being regulated, that people could not post things just wherever they wished. We installed quite a number of bulletin boards around campus for students. We had requirements that they had to be certified before they were posted. But there were very few demands on what they posted. So, that was another thing.

We created the Casa Hispanica I recall, which was part of the dormitories being set aside as what we called "Casa Hispanica." We hired a housemother who was a Spanish speaking woman who supervised the students. They lived together, they ate together, they talked Spanish together.

They adopted the University of Baja, California, in Mexicali on the Mexican side, as their sister university.

We had the fun of going down on a visit one time. I remember Ed Coman was Librarian at that time and had surplus books, and they were rather short of books at the University of Mexicali. I took several boxes of publishers books that I had at

Halberg: home and we donated a truckload of books for their library there. They were long on architecture and short on fancy things like libraries at the *University of Baja California, Mexicali, at that time.*

We went down with two busloads of students. I decided to give a short talk in Spanish as a representative of university administration. I had learned some Spanish as a youth when I lived in Carlsbad and worked in the flower fields. Being a garrulous type even at that age, I found that if I didn't speak Spanish I didn't have anyone to talk to. So I learned some.

And then I went to the Military Academy in Carlsbad where we had quite a few students from Mexico. They came often knowing very little English. We taught them English and they taught us some Spanish. So my good friends like Aguilar and others helped me through Spanish in those days.

Armando Ruiz Gomez Galindo was at our sixtieth reunion recently, and there were only four of us. Well, there were only three at the reunion, but then there were only nine of us to begin with. But having known a little Spanish, I thought I could muster a few words of Spanish for this event.

I made up a little talk and Homer Aschmann, head of the Geography Department and a close friend of mine, met with me at the coffee shop for coffee one morning. I tried to go over my little talk, and he told me it was terrible, and I maybe had known some Spanish when I came, but I must have forgotten it!

Erickson: (chuckling)

Halberg: This irked me a little bit. So, I went to Hugo Alcala of the Spanish Department and let him correct my grammar, and he made a tape for me. Another one in the Spanish Department named Moreno did the same thing. So, we went down and I gave my talk. And having given it, the Rector and the Assistant Rector both came and gave me the embrazo and kissed me on both cheeks, and much to my embarrassment thereafter spoke nothing but Spanish.

(laughter)

Halberg: I didn't understand much of what went on the rest of the day.

Erickson: Well, they had to be impressed.

Halberg: Well, some weeks later I saw Homer. He said, "I was just down at the University at Mexicali." He said, "They told me you had been there and you spoke beautiful Spanish. I just can't understand it."

(laughter)

So, I was quite amused. Being close friends as we were, we didn't like to compliment one another unnecessarily.

Erickson: Um hmm. You should describe Homer.

Halberg: Homer was a wonderful person and a wonderful teacher. I fortunately had many close years of close friendship with Homer and Louise and their children. One of his sons, Carl, is a Godson of mine. His daughter Sarah and her husband ... Homer's little granddaughter, Laura, lived right around the corner from us for a period in Riverside.

But Homer and I date back to the beginning. I think the Faculty Club in the early days used to have once a month a "smoker" so called where we had a guest speaker and we drank beer. That was illegal on campus at the time, but we had beer and sandwiches, I think cold cuts set up for refreshments. We were told we must take away all the cans and leave nothing there.

(chuckle)

Erickson: No evidence.

Halberg: No evidence of our activities. But at one of these meetings after the refreshments, Homer, who considered himself quite an arm wrestler, looked around and I was the biggest fellow

Halberg: nearby and challenged me. So we sat down and struggled a long while, and I finally won. And then he said, "Left arm!"

(laughter)

So we tried it with the left arm, and I took him with the left arm. He looked at me with a different look than he had before. I had become of someone of importance, I guess.

That's how our friendship started and it lasted all through the years, until not long ago I stood at his graveside at Riverside. We still see and love Louise, his wife. We see his children occasionally, too.

He was one of the early volleyball team faculty that played with the students and over a number of years that we talked about on the video session. Afterwards, we would always go over to Frank's on Third Street and sat around and drank beer and discussed the game and so forth.

Erickson: I am going to change the subject just a bit. What was the name of the group of comrades you had? You and Van Gundy and ...

Halberg: Oh, the Wholesome Livers, so called. Yes, I don't know who gave that appellation to the group. For about a twelve year period, I think from about '56 to '68, something like that, every year directly after Commencement exercises, we would take off our regalia and jump in cars and drive up to the High Sierras. The first years we did our camping along ... let's see, I guess ... Tom's Place, along one of the streams that's just north of Bishop.

Erickson: Whose place was it?

Halberg: It was called Tom's Place.

Erickson: Oh, I see. I thought it was a member of your group.

Halberg: Then we got a little discouraged with the cold and hard ground, so we began renting cabins with running water and indoor

Halberg: facilities at Arcularias Ranch, which is along eight miles of private trout stream up there. That's very near the lakes there.

Most of the years we went up there and had great fun. The group consisted over the years of Conway Pierce, one of the founding fathers; and Herman Spieth; Jim Pitts; myself; Seymour Van Gundy; and then George Zentmyer; Jim Kendrick; Fred Veitch; *Tom Broadbent*; *Tim Prout*; and Paul Straubinger, from the German Department. I'm sure I'm leaving someone out but it was quite a group and we had wonderful times.

The supreme anglers were Van Gundy first of all and Jim Pitts tried very hard to best him, and Jim's quite an angler, too. We would go up and have a week of comradery. I remember Herman Spieth found out he was to be the new chancellor at Riverside, somehow over the crank telephone.

Erickson: Crank telephone, no kidding?

Halberg: It was down at the office in a little store where we checked into the cabins and had a lot of fun over the years. Most of those members are gone. I think George Zentmyer, Jim Pitts and Van Gundy and myself are the only four left. There were about twelve most of the years. We would invite people to be members for a single year when someone was gone on sabbatical or on leave for a year.

One of the early members was the head of the ... oh, I can't think of the women's wear in Riverside, the family store there, and he was very impressed. I remember Jim Pitts told him when he asked what to look forward to, he said, "Well, when you go up, we'll all go out fishing, and then we'll (the first night) have some steaks and we'll have a few drinks. And then some of us will play poker, and then they'll take all your money!"

(laughter)

And that's exactly what happened. Oh, that was great fun.

Erickson: Uh huh. Well, let's see. You served as the Chairman of the Board of Athletic Control. What was that position?

Halberg: Well, the Chairman of the Board of Athletic Control, which was, I believe, an Academic Senate committee.

Erickson: Oh, I see.

Halberg: We had one on every campus. We used to meet at other campuses with several people. I remember going with Herman and myself and Jack Hewitt, who was the original head of the P.E. Department at UCR up to meet with similar trios from the campuses of Davis and Santa Barbara and smaller campuses. Because we had within the smaller campuses scheduled confrontations with one another.

The one at Santa Barbara's name—I can't remember his last name—but he was called “Crip.” I guess as a student athlete, I guess he was always being injured. I remember then he had, for some reason I can't remember whether he was diabetic or what, but he had a leg amputated. We were wondering how we were going to call him Crip anymore, but I think it was Herman who said, “Well, his name is Crip, and we'll have to call him Crip.”

(chuckle)

Erickson: What was the assignment?

Halberg: We worked out the athletic schedules, and we were in charge of supervising the athletic competition between UCR and the extramural meetings. We didn't have a football team in the early years, and I think one of the years that I was chairman was the first year we actually had a football team.

We beat Davis as I recall. Maybe it wasn't the first year we had it, but we beat Davis, I think, that year. That was the first time some of the people in the north even knew UCR existed.

Erickson: Oh really.

Halberg: It was in connection with that, that I was Charter Advisor to the Big C Society. That's perhaps why I later became Chairman of the Board of Athletic Control. That society was a society of lettermen, and you became a member when you got a letter. The jackets with the Big C emblem on them. I don't know if they even have them any more, but they used to be very proudly worn by the students over many years.

And to be a member of the Big C Society, you had to be awarded a letter in one of the competitive sports. There are people in the alumni committee—I forget, one is a dentist who was the golf expert.

Erickson: Oh, the dentist was probably Fred Bryant or Eddie Cowan.

Halberg: Eddie Cowan. Eddie was a member of the Big C Society. I know my signature used to be quite legible, but I think it started with signing the awards for the Big C Society and later as Vice Chancellor, my signature has become more and more illegible over the years.

(laughter)

Erickson: You signed a few documents!

Halberg: Signed a lot of documents. I was Chairman of the Library Committee for a number of years and was given a stamp that I used, a rubber stamp for a signature.

Erickson: Did you serve on some systemwide committees also?

Halberg: Well, I was on the Board of Admissions and Relations with Schools, and I was the Chairman-elect of that statewide committee when I became Vice Chancellor, and then as an administrator, I couldn't hold that position. That was an interesting job the years I was on that committee, because we visited many local high schools and junior colleges and gave talks and presented awards for the accomplishments of students from these institutions who came to the university.

Halberg: We also kept records and ranked high schools and junior colleges throughout the state and set admissions requirements. I think it's unfortunate that some of the admissions requirements in mathematics were changed since I was on the committee.

Erickson: They were changed?

Halberg: Yes, and I think they were better before.

Erickson: In what way did they change?

Halberg: I think we became, as I recall, less ... there were less requirements for mathematics in the university than there were prior to that. I still think that the primary jobs of the university is first of all giving a well-rounded education. Considering life today, I can't see how anyone can really consider themselves an educated person without some mathematics in their education.

Erickson: This is an aside from UCR, but do you have an opinion on the lowering SAT scores? In math, in particular.

Halberg: Well, there are reasons for that. I think primarily a great many of the people teaching mathematics in the public school system have not been mathematics majors in their college careers. It used to be sort of a joke that, you know, a coach didn't have much else to do, so let's let him teach the math. It is unfortunate.

I hope in the years when I advised students and found that they had decided they would like to teach mathematics, I was always very interested and encouraged them, because I think teaching is a very important job, and I love to see some of my students go into teaching mathematics at the high school level or the university or college level—any of these levels.

I actually authored and co-authored *several* high school text books over the years. Jack Devlin, my co-author, was President of ... (pause) ... the largest math organization in the United

Halberg: States for teachers of mathematics—The National Council of Teachers of Mathematics. I wrote the texts, and he wrote the exercises. The publisher, Scott Foresman, did this for several areas, and I did text on mathematical analysis for their series.

I did have a National Science Foundation course I taught for years for high school teachers of mathematics. I taught teachers that came from several regions around Riverside, from Palm Springs and so on. I was asked to give commencement addresses in Palm Springs because of this in later years.

Erickson: How long did you do that?

Halberg: Quite a number of years. When I first came to Riverside, I got a call from the head of the Mathematics Department at Redlands. He was going to have a National Science Foundation summer institute for teachers, and he asked me if I would like to be involved. I thought about it and said I would. Then in 1961, I believe, I applied for an institute ...

Erickson: Do you apply with a written proposal?

Halberg: Yes, at Riverside, National Science Foundation, and we were awarded a summer institute for eighty students. I think we had 1900? and some applicants.

Erickson: My goodness.

Halberg: They were from all over the United States. We had several nuns and some high school teachers from all over the country. We were required some local people. I enjoyed that very much. Later I taught one with Paul Kelly, headed at the University of California, Santa Barbara, and we had a summer institute up there in which I did the same thing.

And then I was invited to give the banquet address at an NCTM (National Council of Teachers of Mathematics) meeting they were holding in Honolulu. I went down there and gave an address which I called the “Aftermath of the New Math.”

Halberg: One of my former colleagues in Riverside, Dolly Koehler, actually Irene Koehler, taught some of the remedial math in the early days at Riverside. We couldn't keep her because she didn't have her Ph.D. degree, but she went to the University of Hawaii at Honolulu.

She threw a party, and at that party there were people who asked if I would like to teach in the *National Science Foundation Teacher's Institute in conjunction with the State Department and U.S. Air Force* to be held in Tokyo for teachers of dependent schools in the Far East. I didn't really think Japan was very high on my list of *places I wanted to visit*, but I said they could go ahead and put my name on it and we could see later. You know, we could always rearrange that sort of thing. In the end, I decided to go and had a wonderful experience.

The only thing ... Kenji Inouye was a Professor of Mathematics Education at the University of Hawaii and my colleague in this. I gave the lectures and he took the discussion sessions afterwards for these teachers. There were several subjects. Kenji and I were the only ones in mathematics, but there were also physics and chemistry and other things. It was a very great experience.

I remember we had some students from Korea, students from schools in the Tokyo area that were involved. And then later I was invited to be a Fulbright Lecturer in Korea mainly because of this. I went around giving talks in Korea and it was quite an experience. I saw a great deal of Japan with Kenji who spoke fluent Japanese but had never been in Japan. He was born and raised in Hawaii.

Erickson: Oh.

Halberg: But on weekends, we went off and visited places that perhaps other foreigners wouldn't have been because of Kenji.

Erickson: You talked about going to Sweden for your sabbaticals. What did that do for you as a professor?

Halberg: Well, of course, it's always a stimulating experience to be in an environment other than your own. I had always dreamt of going to Scandinavia because my forebearers were all of Scandinavian origins, and so I applied. My brother in law to be, Åke Samuelsson, had been a visiting professor at UCR, and I thought of going to Australia first, but Åke invited me to come to Sweden. I said, "Well, are you sure they want me?" He said, "Well, I've already talked to the people there. They would like very much to have you." Vidar Thomée was head of the Mathematics Department there then, and so I came.

Åke was preparing to get his Swedish equivalent of a doctor's degree. The Swedish doctoral degree in those years was a much higher degree in some sense than the American degree. It was essentially equivalent, I would say, to acquiring tenure in a research-oriented university. You had to have written several papers on a subject, and you got up and defended these papers and you had a first and second opponent. The second opponent was not your opponent really, but your ally in a way. He was the one who asked questions that he was pretty sure you could answer, and I was invited to be a second opponent and enjoyed that and spent that year learning a lot about the Swedish mathematical system and learning some Swedish.

Later I married Åke's sister, Barbro. Barbro died during my tenure at the *University of California* Scandinavian Studies Center about ten years later while we were living in Sweden.

I think the sabbatical gives you more freedom, freedom from your committee work and from the little duties you have while you are at home, and keeping up your home and so forth. The change is very helpful in making you work more on your research and getting new ideas and talking to people in areas that are close to your area of concern, where perhaps at home you didn't have so many in your area.

Vernon Kramer was something of a functional analyst. He and I worked together.

End of Side A, Tape 1

Erickson: You were talking about writing some papers with your brother in law.

Halberg: Yes. Åke and I wrote some papers which appeared in Mathematica Scandinavica. It was very stimulating and people like Arne Broman and others interested me in fields of research that I hadn't been interested in before. I sat in on lectures of some mathematicians, for example, Jöran Triberg, who was a world expert on ancient mathematics in some areas, and so forth.

In that book I mentioned that I was writing, Aftermath, he contributed some material for one of the sections on an inequality. That inequality was known some twenty five hundred years before I chanced on it as a high school student and thought it was very interesting and amusing. And then I found out it really was just another way of writing an expression in complex variable theory. I was talking to Jöran one time, and he said that was known twenty five hundred years ago.

Erickson: Well, you discovered it.

(laughter)

Halberg: No, I hadn't discovered it. By discovered it, I meant the first time I saw it as a well known quality and one that was standardly taught.

Erickson: I see.

Halberg: I just thought it was a very interesting one.

Erickson: Did you have graduate students?

Halberg: Yes, I had three graduate students. One of them only finished a master's degree, another finished her doctoral degree. She was

Halberg: one of the brightest students I have ever had. I think perhaps she was the first woman Ph.D. from UCR.

Erickson: Is that right? Do you remember her name?

Halberg: Yeh. Ann ... there I go again. (chuckle)

Erickson: Well, we can fill in that blank later.

Halberg: OK. (pause) Ann Mills.

Erickson: Mills. OK.

Halberg: I was trying to think of her maiden name, because she was an undergraduate student. She and her brother, *Clifford Arnquist*, were both undergraduate students of Scandinavian descent. In fact, I was charged to see if I could find out anything about their ancestry by Ann's father at one time, which I wasn't terribly helpful with. But Ann had been an undergraduate student and then was teaching mathematics in Canada. They were so impressed with Ann that they wanted to keep her, but she needed a degree.

So, she contacted me and asked if it would be possible to come to UCR to pursue the doctoral degree there. And I said, of course. She came and took about three years as I recall, which is a pretty short time for her doctoral degree. Ann was a particularly bright and able student.

Unfortunately, she had two sons and I think she decided after getting her degree that she had more obligations as a mother than to mathematics and did not go on. I think it was a loss, but if not the first Ph.D. at UCR, she was second. I don't recall, but I've always been very proud of the fact that I helped the "women's lib" area. I've always been of the opinion that women have equal status with men.

Erickson: Well, along those lines, Doon, would you talk about your experience at University Club—what's now known as University Club?

Halberg: Yes, I joined what was then the Men's Faculty Club of the University of California, Riverside. It had been founded in the early days, before we became a campus of the university, when it was the Citrus Experiment Station.

They had people like Dan Aldrich who was later Chancellor at Irvine and George Zentmyer, Jim Kendrick perhaps were some of those that helped in the building of it. They acquired a huge Quonset hut from March Field after the war and had it transported to campus. They built a great big stone fireplace, which is still the fireplace at the University Club.

Erickson: Those men built the fireplace?

Halberg: Yes.

Erickson: Oh, I didn't know that.

Halberg: And I am pretty sure Danny was one of those who helped build it. I'm not so sure of some of the others, but Dan Aldrich, George Zentmyer and Jim Kendrick were quite a trio in those early days. They later all became good friends of mine, in particular Jim and George.

Dan left our campus and later became Chancellor at Irvine. When my nephew graduated from there, we went to his graduation and we were walking along and here comes Dan walking along. I was with my group, and Dan says, "Hi Doon." And Bob, who I never thought considered my position as professor at Riverside of any great importance, sort of looked at me with new respect.

(laughter)

If I knew Dan Aldrich, his Chancellor ...

Erickson: You must be all right!

Halberg: I was all right. At any rate, I became President of the Faculty Club in probably 1964, something like that. I decided I had two things I wanted to accomplish during that tenure as president. One of them was to enlarge the Faculty Club and the other was to allow women to become members. In fact, we had very few women on the faculty in those days. Loda Mae Davis was our Dean of Women.

Jim Kendrick was my Chairman of the Membership Committee, and he and I put this proposal to the Club at one of our business meetings. Some of the older members were actually very upset. They pointed out that they had been organized as the Men's Faculty Club and that it should remain a men's faculty club.

The argument went back and forth, and Jim and I had to stand up and take quite a bit of punishment from some of the older members about it. But we finally prevailed. We had very few women in the club in the early days. One of the reasons the members didn't like it was what would it do to our monthly smokers and so forth? But it turned out that we were successful.

The other thing I wanted to accomplish ... We badly needed some more space and rooms for things, an improved faculty club, so I proposed we enlarge the Faculty Club. I got Al Haight, who was head of Architects and Engineers on campus at that time, to draw up some plans.

I got Ivan Hinderaker interested. He had some moneys that he'd acquired—I think \$50,000—someone was willing to contribute to some good venture. He got Phil Boyd, who was our early Regent, interested. We had some luncheons and talked about some of Al's drawings. We pushed the issue, and in the end we succeeded, but we succeeded too well. Some people thought well, this is fine. But \$90,000 which I had proposed, was not really adequate to what should be done. It ended up with a budget more like \$300,000 which was a lot of money in those days. We built the beautiful, beautiful faculty club that we have now.

Halberg: Unfortunately, our membership didn't grow accordingly. Some of the younger members coming in by that time didn't really need a faculty club. Our income was not terribly great. We tried to increase it.

I remember I proposed to have a cocktail party to have new members—an unheard of thing in those days. But I went to Ivan. Ivan was quite a tea-totaller in those days himself, and he said, "Well, I can't refuse you myself since when I was Chairman of the Faculty Club at UCLA, I held the first cocktail party they had there."

So, we had one for membership there and one of the larger members of the Faculty Club whose name escapes me now ... he and I ... I being fairly large, too ... would literally take a person up to the membership table and stand there until they signed up.

(laughter)

Erickson: Is that called strong arming?

Halberg: Strong arming! But eventually we got so that we couldn't even keep up the interest payments. I don't know what the financial arrangements were, but the university took over the Faculty Club. And having done that, it had to open its doors to the personnel at the university other than faculty. And so it became University Club rather than Faculty Club.

Erickson: I see.

Halberg: But I am not sorry on either score. I am sorry that currently I think you find very, very few faculty members in the University Club, which I think is too bad. I wish there were more faculty actually participating in the Faculty Club. It has become non teaching personnel at the University Club for the most part.

Erickson: As a university professor, one of your obligations was community service, and I wonder if you'd talk a little about that?

Halberg: Well, my community service ... as I said I was on the Board of Ushers at the Calvary Presbyterian Church in Riverside. I was active in Town & Gown over the years and was President-elect at one time. That's when George Zentmyer took over for me when I went off on sabbatical one year. Those were probably my principal areas of community service.

I did give talks in high schools. I remember going around on a National Science Foundation American Mathematical Society or Mathematical Association of America sponsored programs giving talks to high school students. We did invite students to come and visit the university and so forth.

Erickson: Was that a good way to attract students to UCR?

Halberg: Yes. We did quite a bit of that. We had Science Day and they came to our laboratories and in the Mathematics Department we set up exhibits. Some of the models that I used to make that I sold to the university before I came here were in our exhibit and the machine ...

Erickson: Talk about those models a little if you would.

Halberg: When I was a student at Pomona College, I went to the head of the Mathematics Department and asked if there was or had been a mathematics club. He said yes, but that somehow it had disappeared along the way. I said I would like to be in one, and he asked why I didn't start one. So, I did.

For a while, it was touch and go. I had to do a sort of Paul Revere to go around and try to get students to the meeting and get someone to talk at the meeting (if I couldn't get anyone to talk, I gave a talk on something myself). We got a rather active club.

Halberg: In fact, while I was still a student there, we became affiliated with Pi Mu Epsilon, national mathematics honorary society. They had a chapter which still exists at Pomona as far as I know. In fact, I used to go over and give talks to them sometimes as I was invited years later.

But at one of these talks, I saw one of the then-current issues of “Scientific American” in which there were a lot of models shown. The question was some of them were models, some of them were sculptures. Which of these are mathematical? Which of these are just abstract sculptures? So, I cut these out and put them on cards and we passed them around and took a poll at the club meeting to see. It was amazing how difficult it was for people to choose between mathematical models and abstract sculpture.

Sort of serendipitously, one of the other articles in there was on plastic. Plastics were fairly new then. We developed things like Plexiglas and some other varieties that were used mainly in making things like machine gun turrets on bombers and so forth in the war.

I had the idea at that time that some of the wooden models that I had seen made that we had at Pomona College, which were made with wood and strung with silk thread, things like elliptic hyperboloids and hyperbolic paraboloids and so forth would be much nicer if we could make them in plastic. You could see views of the models that you wouldn’t see—ruled surfaces and that sort of thing with a wooden frame.

So, I got interested in making these models then, and I designed quite a few of these models. The Chairman of the Mathematics Department there at Pomona College, Chester Jaeger, said, “Well, why don’t you start a business?” So, we went into partnership together, and he wrote some letters to colleges around the country. I designed them and made them, and Ariel, my wife then, string them, and we sold them all over the United States—University of Chicago and University of California at Los Angeles, and Redlands College and Harvard and a tiny

Halberg: college in the east that later someone there started up a business using exact replicas of our own.

(laughter)

Erickson: Oh, no!

Halberg: But by that time, I was no longer interested. One of my colleagues at the Naval Post Graduate School in ~~Riverside~~ *Monterey* was so incensed he wrote me a letter saying I should take some action against them. I said that I just considered it a sincere form of flattery.

We had a set at Pomona, and one at UCR that I sold to the university before I came out there in 1954, and they stood in our hall in a cabinet we had made for it for many years until someone there paid me an extreme compliment and broke the lock and stole them.

Erickson: Oh.

Halberg: I have no models of my own. I have only pictures of some of the early ones. Now I have been able to make replicas of them in a sense on the computer. For a while they were a support for me and my family.

Erickson: I am sure. A great help.

Halberg: It's fun to see them all at various schools when I go.

Erickson: Doon, is there anything else that we haven't talked about that you thought about in this week?

Halberg: No, not really. I think one of the things that we hadn't talked about before was the University Club. I think that was an interesting thing. (pause) We missed the annual barbecue this year.

Erickson: I'm not sure they had it. I didn't see any announcement of it.

Halberg: Well, I'm not even sure whether I'm a member. I don't know. I think we did get an early announcement about it.

Erickson: Oh, did you. Well ...

Halberg: We lead such busy lives that suddenly we realized that it had come and gone this year. In the early days, we used to have them where the Irvine campus is now. It was the Irvine Ranch then. For many, many years it was held there until we developed our own site here in Riverside. It was always a trek down to Irvine Ranch in those days, and now the campus is down there. I remember one time with Louise Aschmann, after Homer died, that Betty and I asked Louise to come with us out there in the grove. It rained.

Erickson: Oh, it did?

Halberg: It rained a heavy rain.

(laughter)

I had a blue tarp in my ... I had a little S10 pickup then with a camper shell ... and I had a tarp back there. I got a rope and hooked it up and we had sort of a tent over our table.

Erickson: Oh, good for you.

Halberg: Well, it's rained maybe three times over the years at those barbecues.

Erickson: You don't expect it.

Halberg: I almost always used to win something. Once I was accused of cheating somehow.

(laughter)

I think it was from Lindy Lindeburg, you know. I think I won the meat, a sack of barbecued meat three different times.

(pause)

Erickson: Well, thank you very much for participating in this interview.

Halberg: Well, thank you. And I am sorry that some of those names escaped me.

Erickson: That's all right. We'll think of them, and we'll fill it in the transcription.

Halberg: Yes, they'll come to me when I don't need them.

Erickson: Thank you.

END OF INTERVIEW

Text in *italics* has been edited by Professor Halberg.