AN INTERVIEW WITH GROVER EVERETT

Interviewer: Jewell Willhite

Oral History Project

KU Retirees’ Club

University of Kansas
GROVER EVERETT

B.S., Chemistry, University of North Carolina, Chapel Hill, 1962

M.S., Chemistry, Harvard, 1964

Ph.D., Chemistry, Harvard, 1966

Service at the University of Kansas

Assistant Professor of Chemistry, 1966-1971

Associate Professor of Chemistry, 1971-1976

Professor of Chemistry, 1976
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Q: I am speaking with Grover Everett, who retired in 1999 as Chancellor’s Club Teaching Professor of Chemistry at the University of Kansas. We are in Lawrence, Kansas, on August 11, 1999. Where were you born and in what year?

A: I was born in 1941 in Lynchburg, Virginia.

Q: What were your parents’ names?

A: My father was Grover Everett, Sr., and I’m a junior. My mother was Nell Clingempeel Everett.

Q: What was their educational background?

A: My father had a Ph.D. in chemistry, and in fact he was a chemistry professor at East Carolina University in Greenville, North Carolina. My mother had a master’s degree in English. She taught high school and junior high and eventually taught at the college level, also at East Carolina University.
Q: Was it your father who introduced you to your interest in chemistry?

A: Yes, I’m sure it was. When I was a young boy I used to play in his laboratory starting off with just corks and beakers and laboratory equipment. I used to wash the dishes for him. Later he let me mix some chemicals. When I got older I was able to help him make up solutions for the laboratories he was teaching. I’m sure he influenced me to be a chemist. I was also doing lots of things at home. I have a lot of stories that I tell students about what that happened to me as a budding chemist.

Q: Did you have a chemistry set or some sorts of chemistry-related things that you could play around with at home?

A: Yes, I had a chemistry set, but I also played around with solvents and things that I found in our garage, very often without the knowledge of my parents. One of the things I was doing was mixing water with various solvents, paint thinners, etc. I was trying to see how much water it would take to be mixed in with these solvents
before they would no longer be flammable. I was doing these things out in the
yard and burning things. That was one of many interests in science. I thought at
the time I was going to be an astronomer, so I had built a telescope and was really
very much into astronomy. But I was also observing ants and insects and raising
animals. I thought maybe I would be a biologist. So somehow I ended up as a
chemist!

Q: As a professor you’ve probably done a lot of writing. Your mother’s interest in
English may have helped you with that.

A: I remember in junior high and high school any time a written paper had to be
turned in my mother would really scrutinize it. I used to dread these sessions
when she would go over my writing word for word. But I learned a lot of English.

I think it really helped my writing by having her as an English professor.

Q: Did you have brothers and sisters?
A: I have one sister, who is about five years younger than I. She went through college as a math and journalism major and ended up being a journalist. She worked for a while at the White House and has now retired.

Q: Did you grow up in the town where you were born?

A: Partially. In Lynchburg, Virginia, I went through elementary school and junior high school. My father changed jobs when I was about 13. So I ended up going to high school in Greenville, North Carolina, where my father and mother ended up as professors at East Carolina University.

Q: What elementary school did you attend in Lynchburg?

Q: I don’t remember the names of them now. There were two different elementary schools. I went to Robert E. Junior High School. That’s the one name that I remember. My mother was teaching junior high at the time and, in fact, I was in her class for English.

Q: Did you join organizations such as the Boy Scouts?
A: Yes, I was in the Boy Scouts. I actually made it through to Eagle Scout. I was very much involved in Boy Scouts. After I went to college and even the upper years of high school, I got out of Scouting, but I came back later as an adult when my own son was in the Scouts.

Q: You probably went on hikes and to summer camp, things like that.

A: Yes, the usual Scout activities. The one thing that I didn’t do as a boy was to go to the Philmont Scout Ranch in New Mexico. But I ended up doing that three times later as an adult with my son, which was very nice.

Q: You said you went to high school in North Carolina, where your parents had moved.

A: That’s right.

Q: What was the name of that school?

A: That was called J. H. Rose High School, named after a former superintendent of schools. From there I went to the University of North Carolina. I had considered
going to college where my parents taught, at East Carolina University. But I was given a track scholarship to go to the University of North Carolina, so I felt that was the better opportunity and a chance to get away from home.

Q: When you were in high school, what were some of your favorite classes?

A: I think the ones that I remember and the teacher that I remember most were the science classes. The same teacher, Mrs. Pickleseimer, who was quite a character, taught biology, physics and chemistry. So I had three years of those courses with her.

Q: You were talking about a track scholarship, so you must have been involved with athletics in high school.

A: That’s right. In high school I think that was my principal extracurricular activity, running track, and also I played football in high school.

Q: You must have been fairly good at it if you got a scholarship to do that.

A: I was much better in track than in football, let’s put it that way.
Q: Did you have honors in high school?

A: I don’t remember any outstanding honors in high school.

Q: Was this a large high school?

A: Not very large. I think it had a total enrollment of maybe 400 students, about 100 in each graduating class.

Q: Did you have summer jobs or jobs during the school year?

A: Yes. One summer in high school I had a job as a crop surveyor for the County Agricultural Division. I went out and measured acreages of tobacco, soybeans, peanuts and things like that. I had to plot those on an aerial photograph so that the agricultural people would know what acreage the farmers actually had. Another year I served as a lifeguard at a Girl Scout camp in eastern North Carolina.

Q: When did you graduate from high school?

A: In 1958.

Q: Had you been continuing you chemistry experiments at home during this time?
A: Yes. On one occasion I actually set our house on fire. On another occasion I set
the high school on fire.

Q: How did that happen?

A: I tell these stories occasionally to my students. It really amuses them. On the
occasion of the house fire, one night I was home alone and I decided to try to
make some rock candy, which is just table sugar crystalized into large crystals on
strings. I knew I could do this by boiling down a sugar solution until it got very
thick and then letting it cool. I was boiling down this sugar solution on the stove
and it seemed to take forever. So I decided to just let it go on its own for awhile.

I was working on a rocket out in the garage. I was into making my own gun
powder, making little rockets and things. I got interested in the rocket and forgot
all about the sugar solution boiling in the kitchen. By the time I thought about it
and went back in, the pan had boiled dry and the sugar had caught on fire. The
fire had reached the cabinets above the stove. So the cabinets were all ablaze on
one wall of the kitchen when I came in. In those days, we had a little sprinkler on the sink. I turned up the water and sprayed the cabinets and put the fire out. I didn’t call the fire department. I put it all out and went to bed. Of course, my parents were very unhappy when they came in. So I caught it the next day.

Then on the occasion at high school it was a brand new high school. It was the first year we were in a new building. The chemistry lab was on the lower floor. I was burning some sulphur. It was one of those unauthorized experiments.

I think I’d already finished the one we were supposed to be doing. I was burning this sulphur and it was making a lot of strong fumes, sulphur dioxide. So I decided to hold it out the window until it stopped burning. What happened was that upon holding it out the window the burning sulphur dripped down into some dry grass below. There was quite a layer of very dry grass. The grass caught fire and spread horizontally along the walls of the building. It didn’t really ever hurt the building. It just looked bad because you could see flames leaping up at the
windows. They had to evacuate the school and they called the fire department.

So I got in a bit of trouble for that one.

Q: You were saying something about building rockets in your garage.

A: That's right. I was always working on some little project like that. I never really got into rocketeering, but I was mainly interested in mixing the various components of gun powder to see which would make the best black powder. I was always experimenting with little things like that, and building things.

Q: I would think there would be some danger of it exploding when you didn't mean it to.

A: Well, with gun powder you have to ignite it or heat it somehow. As long as you kept it away from fire, it seemed to be pretty safe. My parents never seemed to worry too much about my playing with these things.

Q: I suppose it was because your father was a chemist.

A: Maybe they thought I knew enough to take care of myself, and somehow I did.
Q: Then you went to the University of North Carolina and you majored in chemistry as an undergraduate.

A: That’s right.

Q: What city was this university located in?

A: In Chapel Hill, North Carolina. At that time it was the University of North Carolina. Now I think there are several branches that all call themselves the University of North Carolina at such and such.

Q: It must have been a fairly large university.

A: Yes, it was the primary state university. At the time it was about the same size as KU when I first came here. I think there were about 12,000 students.

Q: Did you live in a dorm?

A: I lived in a dorm the entire four years I was there. I never joined a social fraternity.

Q: Do you remember influential teachers from your undergraduate days?
There were a couple of chemistry teachers, Tyree and Reilley, who taught me during my first two years of chemistry. And also Professor Coleman, who is still alive and still very active in research. He is now at Stanford University. I think they had very strong influences on me.

Q: Were you active in track the whole time you were there?

A: Yes, I ran cross country in the fall and track during the winter season indoors and the outdoor spring track season. It was more or less required as part of my scholarship. I didn’t have any jobs during the academic year. I started off working in a cafeteria, but I found it was too much imposition on my study time. I was really interested in spending that time studying, so I stopped working.

Q: That is a problem for athletes. There is so much practice time required.

A: That’s right and majoring in chemistry, I took some pretty heavy courses which required quite a bit of time expenditure. We were required to take German then.

The math and science courses--physics, chemistry--you take those courses,
particularly the first couple of years, in rather concentrated form. So it was a pretty tough curriculum.

Q: And lab time and that kind of thing.

A: There were several labs a week, which take a lot of time.

Q: So you said you had jobs during the summer.

A: I had summer jobs. On one occasion I was a lifeguard at the Country Club pool in Greenville, North Carolina, my home town. On another occasion I worked at a DuPont plant as a chemist. The DuPont plant was in Kinston, North Carolina, about an hour’s drive away. That was my first job as a chemist.

Q: When did you receive your undergraduate degree?

A: That was in 1962, four years after high school. In fact, it was common then to graduate in four years. It is no longer common now.

Q: Were you doing unauthorized experiments at college too?
Yes, on occasion. I was a little more careful then. On one occasion as a freshman--and again I tell this to my classes sometimes--I had learned how to make nitrogen triiodide, which is really very easy to make. It's an explosive compound. If you barely touch it or step on it, it goes off with a bang. I decided it would be a nice practical joke to put some of this on the stairs leading into my dormitory. And so I did that one day. The problem with nitrogen triiodide is that it doesn’t explode unless it is really dry. You start out by putting it on something while it is wet. Then you let it dry and it explodes. Well, it turned out that it was very humid that day. The stuff just didn’t dry off all day. But meanwhile people were coming in and out of the dorm and they tracked this all up and down the hallways and into their rooms. Late that night it started going off after it dried. Every time someone would get up and move or walk out in the hall there would be a pop, pop, bang. It sounded like a cap gun going off. So I just kept very quiet about it. I think no one ever knew what it was or who put it there. I don’t
remember any other occasions where I got in trouble or could have gotten into trouble.

Q: Did you go for your master’s directly after your undergraduate work?

A: In chemistry one generally goes directly for the Ph.D. Usually students who find out in the first year or two that they are not capable of getting a Ph.D. end up stopping with a master’s degree. I went to graduate school at Harvard and the policy there was just to go for the Ph.D. If you wanted a master’s degree, all you had to do was apply for it. It was given mainly for passing your courses. You didn’t even have to write a thesis. So I have a master’s from Harvard, even though I have never done anything with it. I just got that on the way to a Ph.D. with no additional work. It was just part of the Ph.D. program.

Q: How did you happen to choose Harvard?

A: I applied for and was awarded a National Science Foundation fellowship to attend the graduate school of my choice. Being on the East Coast, Harvard was kind of
the place to go, just as for a West Coast resident, Berkeley or Stanford would be
the place to go. I had lived for a while as a child in New England during World
War II, shortly after I was born. My father was in the Navy and we moved around
for several years to different parts of the country. One of those times we were in
New England, and I was intrigued about going back there. I went to Harvard
University. I had also received a strong recommendation from one of my
undergraduate chemistry teachers concerning a professor at Harvard, with whom it
would be very nice to work. His name was Richard Holm and I ended up working
with him for my Ph.D. thesis there.

Q: Did you teach while you were there?

A: Actually, I didn’t have to because I had this fellowship, which was a full ride. It
paid everything. I got married about my second year in graduate school. My wife
was a school teacher and we were actually able to live off of her salary and save
the fellowship money that I was getting, which was very nice.
Q: What is your wife’s name?

A: My wife’s name is Carolyn Curtis Everett. I met her in a church group youth fellowship there at Harvard.

Q: What was she teaching?

A: She was teaching elementary school at the time. After we moved to Lawrence, she taught junior high mostly. She taught home economics and reading. She retired about five years ago but is still doing substitute teaching around Lawrence.

Q: When you were working on your doctorate, what were you studying?

A: I was an inorganic chemist, which means that you look at chemical substances that are not primarily carbon-based substances. I was interested in chemical compounds that contained metals such as iron, nickel and cobalt. I was looking at an unusual series of compounds that undergo certain motion in a very fast time scale. They are flipping back and forth between two structures on the molecular
I was investigating this new-found phenomenon and continued that to a small extent after moving to KU.

Q: Did you have honors during your time at Harvard?

A: I had more as an undergraduate. I have a list.

Q: I guess I forgot to ask that.

A: At Harvard, other than that fellowship I didn’t have any particular honors. There are not many awarded to graduate students anywhere. But as an undergraduate I was captain of the cross-country team in 1961, captain of the track team in 1962.

I was Atlantic Coast Conference Champion in cross country in 1960 and in track, two mile, in 1961. I was in the national German language honorary, Delta Phi Alpha. I was in a honorary called the Order of the Old Well and the top honorary, which was the Order of the Golden Fleece. I was in Phi Beta Kappa. I got a medal for being the outstanding chemistry graduate in 1962.

Q: That’s quite a bit.
A: I had this typed out for our Peace Corps application. My wife and I had applied for the Peace Corps but we didn’t get in. One of the things I was hoping to do in my retirement was to go somewhere for a couple of years and serve in the Peace Corps. But they have very stringent health requirements. My wife has had some health problems in recent years. They just thought it was too risky for us to go off to some very remote area where there weren’t hospitals nearby.

Q: When did you get your doctorate?

A: In 1966, again another four-year period after college. I came directly to KU then.

Q: How did you happen to come to KU?

A: I knew I wanted to teach in a university where I could do research. I wasn’t interested very much in the chemical industry. I didn’t particularly want to teach in a smaller school where research wasn’t part of the program. There were several job opportunities, maybe eight or 10 at the time. Many of them were in large cities, such as Columbia University and the University of California at LA, UCLA. I
wasn’t interested in living in that kind of environment. So I interviewed the places that were in small towns, such as the University of Florida, the University of Colorado, the University of Kansas. I could see something in the faculty here at KU that I didn’t see in the other schools, and that was a comraderie, a very closeness among the faculty. Everyone was very much interested what others were doing. Even though the other places were more attractive places to live, being by the ocean or being by the mountains, I decided to come here. And I have not regretted doing that.

Q: Did you have children by this time, or were they born here?

A: Our first child was born in 1966, shortly after we moved here. That’s our daughter. She is now a graphic designer in Chicago. She’s a partner in a small design firm and seems to be very excited about her job. She got married about two years ago to a young man who is an accountant.

Q: What is her name?
A: Her name is Susan Everett. She went through Lawrence High School and elementary schools here. She didn’t go to KU. She went to college down in Texas at Trinity University. My daughter has a master’s degree in art. We also have a son, Mark, who is about three years younger. He was born in 1969. He is an astronomer. He went to KU as an undergraduate and then he got a Ph.D. about two years ago from Ohio State. Now he is a post-doctoral researcher currently located in Tuscon, Arizona.

Q: What do you remember about Lawrence when you came in 1966. How was it different than it is now?

A: I was jotting down some of these things this morning. One of the things that impressed us was that there was only two movie theaters in town. You had your choice of either one or the other. We were very impressed that you could drive into town and almost always park right in front of the store that you wanted to go
into. We were very much impressed with how little traffic there was in Lawrence, how easy it was, at least then, to drive around, having come from the Boston area and the great population centers of the East. We were also impressed that as soon as you got out of town most of the roads were dirt, at least then. Now most of the county roads seem to be paved. There were a lot of dirt roads and we were not used to seeing dirt roads very much on the East Coast. Another thing that I guess I kind of accepted was that the faculty offices at KU were not air conditioned. They had window units in laboratories containing instruments that needed to be protected from the humidity. And the secretarial offices were allowed to have air conditioners. But faculty offices were not. So we were issued a floor fan, which we turned on us all the time. I remember having to write and the paper would stick to your arm. Everything is sticky and you are wet all the time. I was riding a bicycle up to campus in the heat and usually spent a few minutes standing in front of the fan trying to cool off after that, or I would go into an air conditioned area for
a while. So there wasn’t widespread air conditioning. It was easy to park on

campus. If I drove a car, I could always part in the lot right next to the building.

Now it is almost impossible to do that, unless you come in very early in the

morning. I remember how congenial the members of the chemistry department

were. It was almost like a big family. We would do social activities together.

Everyone knew what the others were doing in research. We had a lot of choice in

what we could teach. It was kind of by mutual agreement what we were going to

teach in the upcoming year. So there was a very good sense of comraderie in the

department in those days.

Q: Who was chairman of the department then?

A: Jacob Kleinberg was chairman then. He was a very good chairman, very

supportive. The chemistry department has had a long tradition of being a small but

excellent department in terms of its research and teaching.

Q: Was it in Malott then?
A: It was in Malott Hall. They had moved from Bailey Hall back around 1955.

Q: You had only been here a few years then before there began to be all kinds of trouble in the late sixties and early seventies.

A: That's right. I remember the campus unrest. I remember spending one night as kind of a volunteer guard. They had faculty staying in their buildings to report any activity going on that might look strange.

Q: Were chemistry students involved in the unrest, or probably not?

A: They were not. Chemistry students usually keep out of politics, unions and protests. They are too busy, I think. They are a different class of student. They are not particularly interested in that sort of thing.

Q: What classes have you taught at KU?

A: During my first 20 years or so here, primarily graduate level courses, because I was very much into research. I had research groups of varying sizes over the years. I did develop a course in inorganic chemistry for senior chemistry majors
then. Within the last 10 to 12 years or so I have become very much involved in our general chemistry program, which is the first level of chemistry, of which more than half of the class are incoming freshmen. Most of the others are sophomores.

I took over this program from the famous Clark Bricker. Along with some others, we have developed this course, I think, to a very good situation. It has traditionally been one of the largest, if not the largest, class on campus. In the fall we have had as many as 1,100 students in one class. Typically now it is more like 900 to 1,000. We now teach that course in Budig Hall, the new lecture hall. We used to teach it in Hoch Auditorium, which was the only facility then that was designed for classes that large. When Hoch Auditorium burned down, we had to teach our large general chemistry classes in the University Theater in Murphy for about five years. They let us use the theater because it was the only place, outside of the field house, where you could seat 1,000 or more people.
Q: And these students are probably not only chemistry majors but others for whom chemistry is required.

A: Actually, it is more of the second of those possibilities. Of a class of 1,000 people you might have 20 or 25 chemistry majors. Most of those are headed to medical school. So there are very few who end up being professional chemists, maybe two or three. The bulk of the class is taking chemistry as a requirement for a biology major or premed or prenursing or predental or prepharmacy or preengineering.

That makes up most of that class.

Q: You said Clark Bricker taught this large class before you did.

A: He started this off back in the early sixties. It was his idea to bring all the students together in one class, so that we didn’t have a number of different sections going on and we could have one teacher teaching one class. This would free up the other faculty from this load so that they devote their time more to research and
teaching the graduate level courses. So that has been tradition at KU since the early sixties.

Q: And then there probably are laboratories connected with this.

A: Yes, and those are run by graduate student teaching assistants. The class is broken down into smaller sections of 20 for the laboratories. Of course, in the laboratories the teaching assistant can get to know the names of the students and recognize them. We rely on that because during exams it is nice to have someone there who knows his or her section of 20 or 40 students and can tell whether someone else is in there taking the exam for someone. The professor just can’t learn all the names and faces. I tend to get to know the ones who come in to see me regularly. In a given semester that may be only 20 to 25 students out of a class of hundreds.

Q: The main advantage then of having such a large class is that it takes less of the professors’ time in the department.
A: That’s right. There are also some other advantages that I think that a lot of people don’t recognize. I think we are the only school in the country that does this, as far as we know. When you have several sections of the same class, you might have the same person teaching the same thing over and over. I’ve done that one semester. You’re behind in one section from where you are in the other. You get tired of doing the same thing. If you have different people teaching it, then those people often have different standards and students will say, "His exams are harder. I don’t want to be in his class. This guy is a better teacher. I want to be in his class." There is this sense of competition. Even if you give a common exam in a situation like that, students will say, "This professor prepares you better for the exam than this one. I want to be in his class." So there is that competition that other schools are fighting all the time. KU has never had to do that because everyone gets the same picture and everyone gets the same exam. Things are equalized that way. I think it is a good system, as long as you have someone who
is capable of handling a large class and willing to put the time into it that it takes to do it right.

Q: What does it take to teach a class of 1,000 and hold their attention? I think Dr. Bricker was known for his flashy experiments.

A: I’ve done the same thing. It helps to do a demonstration every class period. I think that my success has been largely due to the fact that I have a pretty good feel for where the students are relative to what we are learning. So I know how to connect new material with what they already know. And I didn’t develop this until my own son and daughter were about high school and college age. I could see what their thinking was and what their background was. I got a little more in tune, I think, with the young, college-aged people at that time. Fortunately, I wasn’t teaching these large classes until after that time. You have to be entertaining. You have to still be rigorous and give them a good course. I have found that students like to have things highly organized and structured, for the most part. You
need to tell them exactly what they should learn, if they expect to get a good
grade, and then expect them to learn it. Students can get good grades if they are
willing to put in the work. I don’t believe in situations where the student has no
idea what they need to learn and it is a hit and miss kind of guesswork. So a lot
of the work in the course is just in the organization, not only in the preparation of
lectures but just organizing things for students, lots of handouts, lots of study
guides. I put old exams in the library and encouraged them to work through the
old exams. I did as much as I could to give them the opportunity to do well, if
they were willing to put in the time.

Q: Do you find there is a wide variety in how prepared they are? I mean there are a
lot of students from smaller schools in Kansas, compared to someone who would
go through chemistry at Lawrence High.

A: That’s one of the problems. Probably the main problem is the large single class.

If you have 1,000 students we find that 100 will never have had any chemistry at
all before. There will be perhaps 150 who’ve already had two years of chemistry in high school and know just about everything you’re going to teach. And then the others have had a typical year of high school chemistry, which in some cases is a good course and in some cases they don’t learn anything much at all. But the way that I tried to structure the course, any student who has never had any chemistry, if they are willing to put in the time and effort, can still get a good grade in the course and many of them do. So if you set it up for them, the ones who are going to succeed will succeed, in spite of their background.

Q: Has the quality of your incoming students changed through the years?

A: Probably it is getting a little better. There was a time when math skills were low. I can’t remember whether it went downhill since the sixties or not. But there was a time when students coming in had very poor skills in algebra. So about five years ago, we raised the entrance level requirements for our large general chemistry course so as to require students to be eligible for calculus, which means that they
had pretty good algebra skills. We don’t use calculus in the course but we do use simple algebra. So I think students are now better qualified in the math aspects of the course. Then of course you always get a whole range of skills. There are students who are very good and will be near the top of their class in these courses. And there are students who really shouldn’t be at a university. Very often they drop out before the semester gets very far along.

Q: Did you like to do experiments for this class that blew up or flashed?

A: Yes, I guess I have kind of a reputation for that. Students will write back years later. If they don’t remember anything else, they will remember these demonstrations. Back in the old days in Hoch Auditorium and when we were in University Theater to some extent, particularly Hoch Auditorium though, any demonstration that could be seen by 1,000 students had to be a big, flashy thing, big fire balls, noise, unless you could put it somehow on a overhead projector and then project it up big. We were very much restricted in that kind of thing in
University Theater because of fire problems. But now in Budig Hall, this wonderful new lecture facility, there are video cameras that magnify everything for you. So instead of having to be big and flashy, now you can do something just large enough to hold in one hand. I demonstrate this often by taking a dime and putting it up on the podium and zeroing in on it with a camera. You can read the inscription on the dime on one of the screens. You can show that to hundreds of students and they can all read it. Now the nature of the demonstrations has changed a bit and there are a lot more that can be done because of the facilities.

Q: What have your research interests been?

A: They have been in inorganic chemistry of the transition metal ions, pretty much the same area but different emphases than I did for my graduate work. This is the largest area of inorganic chemistry. It is called coordination chemistry. So I did a variety of different things here. I’ve had about 25 graduate students go through and get degrees over the past 33 years. Most of those have been Ph.D.s Four or
five have gotten master’s degrees and gone on to other things. One of the
emphases that I have had throughout has been the use of nuclear magnetic
resonance, known as NMR, as a tool for investigating compounds. I have done
some collaboration with Professor Himes in biochemistry on enzymes using this tool
of nuclear magnetic resonance. It’s the same tool that is now used in hospitals
and called MRI.

Q: Malott Hall has changed through the years you have been here.

A: That’s right. It was a much smaller building back in the sixties. I had an office
that could look out on the Military Science Building and grass and trees. When
they added the Pharmacy wing, now I look out on a brick wall about 30 feet away.

The view is totally destroyed. It is now, I think, the largest single building on
campus in terms of square footage because of the new additions. The older part
of the building is very slowly changing. We are renovating many of the labs and
have done so in the last two or three years. But a lot of it is still exactly the same
as it was back in 1966. I have had the same office all this time, except for the first year I was here.

Q: Have you had administrative responsibilities?

A: Not really. I have been chair of various committees but not department chair. That is something I would not want to do.

Q: I read you had begun a Chemistry Magic program with local elementary schools.

A: That’s right. I think maybe 10 or 12 years ago I started getting requests from elementary school teachers to come and do some chemistry magic for their classrooms. Initially, I started doing this on my own. Before long, I had some undergraduate volunteers who were interested in doing this. We would go out as a team with anywhere from three to six or eight people. Each of us would do something different. It meant loading up the departmental truck or a private car with all kinds of apparatus and chemicals and things. There was a lot of preparation time before that. At one time we were going out about once a month.
It got to be really time-consuming and so much of a hassle that now what we do instead is to have big magic show up in Malott each November. We call it the Chemistry Carnival. It is usually on a Saturday or Sunday afternoon for five or six hours. It is expanding each year. We have a lot of hands-on things, in addition to the chemistry magic show. So now instead of going out to the schools, we just invite the parents and school teachers to bring everyone over to Malott Hall, where it is much easier to set things up and not have to travel out. That’s what we have done now for the past four or five years.

Q: Have you had experiments go awry at KU as you did as a younger person?

A: I’ve had some demonstrations that I was doing in class that did unexpected things.

There was one time—I think it was in Hoch Auditorium—where I was making table salt, where you take some gaseous chlorine and you heat up some sodium and plunge one into the other and it makes a nice, bright light and a white vapor. The white vapor is the table salt that’s remaining. The chlorine cylinder was bad, or at
least the valve on it was bad, and I couldn’t shut off the chlorine, which is a very poisonous gas. In fact, it was used, I think, back in World War I as a war gas.

Chlorine was getting away, so I just had to tell the class, "Let’s evacuate the room." We had to cancel class that day because we couldn’t get away from these fumes. I got a pretty good dose of them myself at the time. There have been a number of demonstrations that didn’t work for me as I thought they would. I’ve learned since then why they didn’t work and I avoid those problems. So usually they are fairly foolproof nowadays.

Q: Have you had sabbaticals while you’ve been here?

A: Yes, those have been the high points of my career, as far as my wife and I both are concerned. I’ve been on four sabbatical leaves. I think there are not many people around who have been on four.

Q: Not that I’ve talked to.
A: They have all been research sabbaticals. Three of them have been to various places in Australia and one of them was in Oxford in England. Australians and the English are very strong in inorganic chemistry. So I went to work with specific individuals on each sabbatical. And I was working on a different project in each sabbatical. In each case it sort of turned around the type of research I was doing and gave me a new emphasis to bring back to KU, often resulting in several publications, either from the sabbatical itself or after coming back and continuing on the same project at KU.

Q: Was this for a year and did you have your family with you living in those places?

A: I think each time it was about eight or nine months. It was essentially spring semester plus summer. So we would go in December when classes were out and come back in August just before classes started. When my family was all with me, then all four of us would go. I think we did that twice. Then after my daughter
went off to college, my son went along with us on the third one. Finally there were
just the two of us on the last one because our son was then in graduate school.

Q: Did you like living in England?

A: Yes. Our children were reluctant at first to leave friends in Lawrence, but then no
sooner had we come back than my daughter was thinking about going back there
when she was in college for a semester abroad. It was quite an awakening
experience for them, I think. Our children were very small on our first one in
Australia. I think they are very experienced international travelers now. They've
both gone off on their own. In fact, my son is just coming back from Scotland.

He's on the U.S. orienteering team and they were having the world championships
last week. So he takes off and goes off on his own like that. He's taken a
number of trips abroad, either as an astronomer or as an athlete. I think they
learned a lot about other cultures. I think it has been very beneficial. I'm trying to
persuade some of my colleagues to go ahead and take their children out of school
and take sabbaticals. They are very worried about missing gaps in the education
of their children, etc. I don’t think that makes any difference. In fact, it is
beneficial to get away.

Q: Did you especially like Australia, since you went back several times?

A: Yes, very much. I think we could live in Australia. We lived in several parts,
including Perth way over on the west coast. We’ve lived in the capital city of
Canberra. We’ve lived in Wollongong, which is down near Sydney. We’ve lived in
Townsville, which is up on the tropical north coast. We really like all parts of
Australia and we like the Australians and they seem to like us. We have many
friends down there and would be willing to go back any time.

Q: You said you’ve done some writing. What sort of publications have you done?

A: Research publications for the most part. I have around 65 publications that are on
research that my graduate students and I have done over the years here. These
are in chemical journals, such as The Journal of the American Chemical Society, or
similar specialty journals like that. I’ve written some laboratory experiments and I
have a few laboratory experiments that are published. In fact, I was in the process
of revising one just this past week. There is a certain company that sells
experiments separately.

Q: What level are these for?

A: College level, general chemistry experiments, introductory chemistry.

Q: The kind of experiments you were doing in your introductory class.

A: That’s right. We didn’t use these actual experiments, since we have a good set
already here, but other colleges are using these. At least three of these were
written jointly with my father, who is now dead. These are experiments that he
wrote years ago and I’ve modified them. After his death I was asked to modify
these. So I have revised them two or three times over the past 15 years or so.

Q: You’ve been on university and department committees, I suppose?
A: That’s right. I think I have been on every departmental committee at least once and have chaired some of them. I was trying this morning to think of university committees. I have a list of them here. I guess the most important ones I’ve been on have been CUSA, the Committee for Undergraduate Studies and Advising.

Q: What does it do?

A: It is the principal committee of the College of Arts and Sciences that makes decisions regarding policy and requirements for all the students in the college, which is probably 75 to 80 percent of the students on campus. It makes new regulations and new requirements. It reviews all of the new proposed courses and approves them or disapproves them. So it is a fairly powerful committee. I’ve been on that for the last two years. There have been other committees. I guess the most interesting one was the ad hoc committee for the dedication of Budig Hall, which I was asked to be on. I actually performed demonstrations as part of that.

That’s all on video tape. I was part of the program with former chancellor Budig.
and various other dignitaries. That went over very well. I got a number of very

nice compliments from university administrators and even the governor himself, who

was there. I’m currently on a committee for the centennial celebration of Bailey

Hall, which used to be the old chemistry building. Bailey will be 100 years old next

year. There is a big ceremony planned to celebrate that and also, because of a

proposal that I submitted to the American Chemical Society, Bailey is going to be

designated as a National Historic Chemical Landmark. The reason for that is two

of the faculty members in Chemistry, back in 1905, discovered that natural gas

contains helium. And so virtually all of the helium that we have for balloons and

for various laboratory measurements comes from natural gas. But before that time

helium was considered to be extremely rare and very expensive. Only trace

amounts had ever been found. So it was quite a significant discovery. That took

place in a laboratory right up on the corner of Bailey Hall just a few years after the

building was built. By next summer there will be a plaque up on Bailey to
commemorate that. Perhaps the laboratory will become kind of a museum. If I’m around, they may even ask me to do a chemical demonstration for the ceremony.

Q: I suppose you belong to professional organizations.

A: Yes, I’ve been a member of the American Chemical Society and then for much of my career the British Chemical Society. I dropped out of that recently after getting out of the research area. But I am still a member of the American Chemical Society.

Q: Have you held offices in these organizations?

A: Just locally. I think I have had just about all of the offices in the local section of the American Chemical Society. This includes the chemists at KU and some of surrounding small schools. Back in the past I have been president, president elect, and treasurer and secretary, etc. of that.
Q: You have had some honors at KU. You were named Outstanding Educator by Mortar Board in 1994. And was that also the year that you got the Chancellor’s Teaching Club award?

A: That’s right. That was 1994. Then in 1996 I got the H. Bernard Fink Teaching Award. I was actually off in Australia at the time that award was made. I wasn’t here, but I did meet the Finks shortly after coming back.

Q: Were they the people who funded the award?

A: They live in Topeka and he died just this year. They were a delightful couple. I knew about this award while we were still in Australia. So we brought back a souvenir, a special kind of wooden bowl from Australia to give them in return. But I missed getting up in front of the commencement ceremony down on the platform and getting the award. Those are my three teaching awards.

Q: Since you’ve had so many teaching awards, have you ever been nominated for the HOPE?
A: I’ve been nominated back years ago. I think there is a different procedure now. It used to be that a number of people were nominated. Now they end up nominating only three or four. But I think as many as a dozen used to be nominated. I think I have been nominated a couple times.

Q: What do you think makes a good teacher?

A: I think the willingness to spend time and be concerned for the success of the students. I think that the students appreciate someone who is willing to do as much as he or she possibly can to help them do well in the course and then leave the rest up to them. I think they appreciate that. When I’ve been teaching the large courses, I’ve dedicated 100 percent of my time. I haven’t attempted to try to do research on the side when I am doing these very large courses. Because it is just about 100 percent effort to get the things organized and get handouts and anticipate student questions. Even now after retirement I am writing letters of recommendation. I think this will continue on for a couple of years. I’ll have
approximately a couple hundred letters of recommendation to write a year. And
then there is a constant talking with students with problems in chemistry. Often
students have personal problems, and they just need kind of a surrogate parent on
campus that they feel they can talk to. So I spend a lot of the time during the day
doing that. I try to get around to all of the laboratories and talk to each student
personally. I think in a large class you’ve got to try to show a personal touch.
Even though you don’t have a dialogue in class, as you would in a small class, if
you can make the students feel like they are in a small class, and that someone
does care about them personally, I think that goes a long way.

Q: Do you remember former students who have gone on to greater things?
R: A: There have been many. If I try to name names I would leave out dozens of
others. Many of my students have gone on to be successful medical doctors. I’m
talking about undergraduates now. My graduate students have gone on to become
successful chemists, some of them in industry, some of them are teaching.
They’ve done well. I had eight of them come back as kind of a retirement

celebration back in May. This was organized within themselves. They just said,

“We’re coming whether you want us or not.” Many of them are almost my age.

In fact, one of them is already retired. I was very young when I first came here. I

had just turned 25 years old when I came here as an assistant professor. In fact,

I was only 24 when I came out and interviewed and got the job.

S: Q: Did you start college than at a younger age than 18?

T: A: Yes, I skipped a grade. I guess I didn’t say anything about that. I must have
taken a series of tests back in the third or fourth grade. I skipped the fifth grade

by mutual agreement of teachers, the school officials and my parents. My mother
did spend the summer in between the fourth and sixth grades tutoring me. I did

have to do some studying on things that were normally covered in the fifth grade.

But I skipped the fifth grade. Getting back to elementary school, another thing that

I did, which may have caught the teacher’s attention, was that I used to go around
when I was in the third grade giving astronomy lectures to the students, not only second and third graders but even the fourth, fifth and sixth graders. I know now that those older students must have just hated this young guy coming around telling them about the planets and the stars. I had models of all the planets and their relative sizes. I would line these up at the blackboard. I had probably a 10 or 15-minute lecture.

Q: Was this in class?
A: This was in class in elementary school. So I guess I was a born lecturer. I don’t know how I got into that. Probably a teacher found out that I was doing this sort of thing as a hobby, making these models of planets and making telescopes. I was convinced at the time that I would be an astronomer. It caught the teacher’s attention and they decided to skip me ahead a grade.

Q: Then you must have graduated from high school when you were only about 16.
A: I had just turned 17 in March. I finished my Ph.D. when I had just turned 25. So my first graduate students here at KU were probably already 22 or 23 years old and I was in my late 20s, only four or five years ahead. It wasn’t a big gap. Most of them are gray-haired and middle aged now. Their children have grown up. Some of them are grandparents.

Q: Have you been involved in community activities in Lawrence?
I think the principal one is with the Boy Scouts. When my son became old enough to be a Cub Scout, I helped out with the Cub Scouts and eventually ended up being Cubmaster of that Pack. Then when he joined the Boy Scouts, I came in as an assistant Scoutmaster. I served three or four years in that capacity.

Q: Which troop was this?

A: Troop 59, which is associated with the Presbyterian Church, the one west of town on the other side of 23rd Street. I think that troop is still going. I was one of several assistant Scoutmasters. Richard Branham, a professor here, was Scoutmaster then. We did a lot of events. I went to three two-week expeditions to Philmont Scout Ranch with boys during three different summers. Another summer we went up to northern Minnesota to the canoeing area. We enjoyed that. My own son was along, of course. I guess that was the incentive for me being in Scouts.

Q: Did he become an Eagle Scout too?

A: Yes, he worked his way up to Eagle Scout. That was a very nice occasion.

Q: Do you have continuing involvement with KU since your retirement?

A: Well, it has only been three months so far. I'm not going to be teaching anything this semester. I am in the process of writing letters of recommendation. I keep getting phone calls at home. Students know that I'm retired, but ask if I will write something anyway. So I still have an office. I'm still working on this revised set of experiments. I expect to be doing things like this for at least a semester. We're still hoping to go off, perhaps abroad. I've got several irons in the fire. I may go off and teach at some school somewhere. Even in the U.S. there is the possibility of sabbatical leave replacements.
Someone goes on sabbatical leave and they have the funds to replace that person’s teaching load. So I’ve sent out some inquiries around. I wouldn’t mind going back to Australia for that kind of thing. So a year from now we’re not sure whether we’ll be in Lawrence or somewhere else, or even next spring. So we’re hoping to do something.

Q: You retired a little earlier than usual.
A: Yes, it was an early retirement. There were some departmental problems that led me to do this. I think our department has lost a lot of its collegiality, etc. in recent years. It’s getting to the point where someone dedicated to teaching was just not accepted by the departmental administration. They wanted everybody to do research and teaching was supposed to be your secondary occupation. I wasn’t willing to do that.

Q: Anything else you’re doing in retirement?
A: So far we’ve been traveling. In the three months that we’ve had, we’ve taken a trip to the East Coast and we’ve taken a trip out West to the desert. Next week we’re going north to the canoeing area of Minnesota.

Q: Oh, do you still canoe?
A: Yes, my wife and I have a cabin at Lone Star Lake. We’ve been canoeing there for years. I’m still very much into athletics. Every day I do something. I either bicycle or I run or I swim laps.

Q: Oh, you still run?
A: Yes, I still run when I can. I tend to have orthopedic problems more and more. So when I can’t run, usually I can bicycle or I swim. So I kind of alternate between them to minimize the stress.
Q: Do you have grandchildren?

A: Not yet, and I’m not sure whether we ever will. My son is not married and my daughter is a professional graphic designer and probably doesn’t want to interrupt that right now.

Q: What is your assessment of the chemistry department or KU, past, present, hopes for the future, that kind of thing?

A: I think the university as a whole is a very good quality undergraduate institution for students and really a bargain for in-state students and even a bargain for out-of-state students compared to other institutions. I think the faculty as a whole are of good quality and it is generally a very good university. It is surprising to find such a university in an agricultural state such as Kansas. The graduate school, I think, is not comparable to the really big graduate schools. I think our reputation, frankly, is better as an undergraduate institution. The chemistry department has always had a very good reputation for high-quality research and teaching and collegiality. I think that has fallen off in recent years. I think the department needs a competent new leader to resurrect the department and get us back to where we were. We’ve lost a number of faculty members, either who just left or who retired in recent years. These haven’t been replaced.

Q: The department must have grown since you were here. Is it now then getting smaller?

A: It actually has not grown very much, if you count full-time equivalents. It is probably very close to what it was in 1966. We have more faculty members because we have people who are half-time or quarter-time in other departments. So there are more bodies around. But because of retirements and people leaving in the last year or two, even though we have attempted to expand, I think we have not grown much since 1966, back
when the university was about half the size it is now. So we need new faculty members.

We need good leadership, I think, to try to resurrect the department.

Q: Anything else you’d like to add that I forgot?

A: I can’t think of anything else.

Q: Okay, thank you very much.