

Oral History Interview
with
Crosman Jay “C.J.” Clark

Interview Conducted by
Jerry Gill
October 17, 2008

O-STATE Stories
Oral History Project

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O-STATE STORIES

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Interview History

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The recording and transcript of this interview were processed at the Oklahoma State University Library in Stillwater, Oklahoma.

Project Detail

The purpose of O-STATE Stories Oral History Project is to gather and preserve memories revolving around Oklahoma Agricultural and Mechanical College (OAMC) and Oklahoma State University (OSU).

This project was approved by the Oklahoma State University Institutional Review Board on October 5, 2006.

Legal Status

Scholarly use of the recordings and transcripts of the interview with Crosman Jay "C.J." Clark is unrestricted. The interview agreement was signed on October 17, 2008.

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AN ORAL HISTORY PROJECT OF THE OSU LIBRARY

About Crosman Jay “C.J.” Clark...

Crosman Jay “C. J.” Clark earned three degrees from Oklahoma State University and in 1953 was one of the first three individuals to earn a Ph.D. in mathematics from OSU. C.J. and his wife, Nicki, first came to OSU during World War II to study at the U.S. Navy oriental language school. He completed his bachelor’s degree in Japanese language in 1946, and he remained at OSU for graduate work but changed his major to mathematics.

Clark remembers “the Moore method” of instruction, named for R.L. Moore, that emphasized critical thinking skills much like Socratic pedagogy. One of his math professors, Dr. O.H. Hamilton, a student of R.L. Moore, used this method. He incorporated this methodology into his teaching style and philosophy. Dr. Clark had a long and distinguished career in education and in the private sector, engaging in sophisticated theoretical and applied research and helping develop cutting-edge technology for the military and industry.

He took a position with the Conoco Company and worked with a team of scientists to help develop a system of underground geophysical mapping using controlled frequency sound waves to explore for potential oil reserves, instead of dynamite charges. He then moved to California and worked over the next several years for Lockheed and then the Sylvania Corporation. He accepted a position with Texas Instruments in Dallas but after four years returned to California to work for Northrup Corporation. He formed his own company, Interscience Systems, Inc., and developed mathematical models for weapons systems for the military. Much of his contract and consulting work was with the China Lake Naval Station during the Vietnam War era. He then accepted a research and teaching position at San Jose State University and retiring after 15 years there he completed his career by teaching in the graduate program of the College of Notre Dame, Belmont, California for eight years.

C.J. and Nicki have three children, Carole, Linda and Kami. Their children, grandchildren and three great-grandchildren live in the Bay area of California. They are retired and currently live in Lynden, Washington, but they also spend several months each year at their other home in the Santa Cruz Mountains of California. In 2008, they returned to Stillwater, after an absence of many years, to tour the campus, participate in Homecoming activities and reconnect with OSU.

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Crosman Jay “C.J.” Clark

Oral History Interview

Interviewed by Jerry Gill

October 17, 2008

Stillwater, Oklahoma



Gill *My name is Jerry Gill. Today is October 17, 2008. I'm visiting with Dr. C. J. Clark in the Conoco Phillips OSU Alumni Center on the OSU campus. This interview is for the O-STATE Stories Project which is part of the Oklahoma Oral History Research Program. Dr. Clark, welcome back to campus.*

Clark Well it's nice to be back; it's been many years.

Gill *It's been, what 1950s, since you were on campus?*

Clark Yes. We actually left Oklahoma in 1956, but the last time I was associated with OSU—it was Oklahoma A&M at that time—was in 1953.

Gill *To back up a little bit, where did you grow up? Could you share with us a bit about your early life?*

Clark Yes, that was in Lansing, Michigan and I was born in Jackson, Michigan not very far from Lansing. We spent our whole youth in that area and I graduated from high school at Lansing Eastern. What year was that? My goodness—must have been '43, maybe—something like that.

Gill *Well, there's got to be a story. I mean, did you come directly out of high school to OSU or is there military service?*

Clark Oh, no. How I got to OSU is an interesting story because after I graduated from high school World War II was in progress, and I started my college career at Michigan State in East Lansing. That's very close to Lansing. When I grew up, everything was associated with Michigan State, but as a result of the war going on, I was in the ROTC program there. But I decided, well maybe I would prefer to be in the Navy program, so I joined the Navy. It was called the V-12 program. What it was is you continued on in college essentially, but you were in the Navy

and it was all Navy-run; that college was Western Michigan at Kalamazoo, Michigan.

So I was in the V-12 program. I went there a year and a half or two years—something like that—and when you graduated from there, then you went into a pre-midshipman program and then midshipman's program at Northwestern University. As a result of that, I got my commission and then there wasn't much alternative except to be sent to the islands trying to re-take Japan. But they had a language program—the Navy did—if you qualified for that, then you could study Japanese language. Well, it turns out that I did qualify for that, so the alternative being given was some kind of a landing craft and going across the Pacific looking for an island—not something that I anticipated. Although a number of my colleagues did and I heard stories that some of them even got lost. This whole officers candidate program was shortened so I'm not quite sure how really good sailors we were, at least I wasn't too good. Anyway as a result of that, the language program was in Colorado—the University of Colorado at Boulder. However, that was full, and we anticipated a long time to get into Japan and so they expanded that program and opened an oriental language program here at Oklahoma A&M at that time.

I was sent here. You couldn't get married until you got your commission, so as soon as I got my commission in 1945, then we got married. My orders were to come to Stillwater, Oklahoma and we got on a train which let us off in Ponca City. Ponca City was an interesting name, but then we still had to get to Stillwater. We didn't know where that was. We got on a bus. We were the only non-native—by that, I mean the bus was filled with Indians—this was our introduction. So we got—I don't know, it must have been 10 or 15 minutes—and the bus stopped. They all got off. We learned later that's the Ponca reservation. We didn't know that at the time, of course, and that four-lane road now going up there—I can't believe it was a two-lane—a lot of it was gravel (Laughs) so we came into Stillwater. We lived at 203 North Duck, a little garage apartment above the garage. We were just there recently and that's been bulldozed away. Now OSU really has expanded unbelievably from when we were here.

So anyway, that's how we got here. I did that program and then the war ended. The program was an 18-month program and it wasn't finished, and they said, "Well, are there a number of you that want to stay on?" This was taught by Nisei—that is second generation Japanese Americans—and of course these are the only ones that were not in the internment camp in those days. So I said, "Yeah, why not?" So I finished that program. I don't know, there must have been 20 or 30 of us that finished that program and then that—now the war's over—I got

discharged in Memphis. Came back here and I had—my original interest was mathematics and as a result of that, I got to know Dr. Diamond—Ainsley Diamond—at that time was head of the Math Department. Well, essentially before that I contacted the administration here and wondered what it would take to get a degree—a bachelor’s degree—and they said, “Well, let’s see.” So they got my credits from Michigan State and Northwestern and Western Michigan and put them all together and they said, “Well, also, we can use what you did here,” —because it was equivalent to a masters in Japanese as a major. “You can walk out of here today with a degree.” I said, “That sounds good.”

So as a result of being in the Navy and in Oklahoma—which was weird—and the war is over, I have a degree. And as I say, Dr. Diamond said, “Gee, you know, we’ve got all these people coming back on the GI Bill. How about staying on here and working on a master’s?” I said, “Well, I don’t know. That’s interesting, but we’re from Michigan. I’ll go back up there and see what’s going on,” and so we went back and nothing was going on compared to what was happening here. (Laughter) So I said, “Hey, I’m back,” and so I worked on my master’s degree with a graduate teaching assistant program.

Gill *So you finished here that first degree where you kind of cobbled that together...*

Clark Yes.

Gill *Was that 1948?*

Clark 1946.

Gill *And then you were working on your master’s from 1946 to...*

Clark To 1948. Yes. I got the master’s in 1948.

Gill *So really in a sense, you didn’t have the traditional undergraduate experience most people had here?*

Clark No. Who knows the alumni my class? I mean, 1946? I didn’t know any of the other “civilian” students at the time.

Gill *Were you in that program—were some OSU faculty teaching sometimes or was it all military faculty?*

Clark Yes, it was all military. We lived off campus, but most of the people lived—I think it was Cordell Hall, as I recall. The instructors were all, as I say, Nisei Japanese. I guess they took them out of the internment

camps. They were young. In fact we made close friends with a number of them.

Gill *So on your master's program you had more of a student experience, although a graduate...*

Clark That was a student experience. Although they were all back from the war usually and even that was not the heavy (Laughs) OSU experience that happens these days, I'm sure.

Gill *You said you lived off campus and then you came back also, where did you live?*

Clark As I say, we lived at 203 North Duck. I was in the Navy oriental language program, which was 24/7 as they say today. But then the war was that way, too. It was very, very heavy and we had a two-hour written exam once a week and an hour oral exam every Saturday. I used to go after I'd get out of that, for relaxation, to a record store very close to the campus theater which was on the corner over here—gone now—and that's the kind of thing that took place there.

Gill *Picking up on that, you were living off campus for your master's program, but what did you do for entertainment? Did you have friends?*

Clark Well we had friends that were in the program, so we would have social get-togethers with them. There were programs that were taking place at the auditorium here on campus, which I gather has been bulldozed and replaced by the...

Gill *Seretean Center.*

Clark ...Performance Center—and we'd go there. In fact our first child was born here in Stillwater in 1946 with the navy doctor. As I say, everybody stayed on another few months until a number of things got wrapped up. There were a number of programs at the auditorium and we'd go there and we danced. We still dance—ballroom dance and we would dance backstage when there would be these bands playing.

Gill *I guess Swim's was right up the street. Did you do some activities there?*

Clark Yes. Well, the other thing—oh, we went swimming often, particularly when it was hot, at the municipal pool down south of town it seems like.

Gill *You talk about Dr. Diamond...*

Clark Yes.

- Gill** *Tell me a little bit about some of the professors that you knew at the time and how Dr. Diamond got you engaged—the head of the department at the time—professors you particularly remember that ...*
- Clark** Well, O. H. Hamilton and Dr. Allen. There were some other people—Dr. Mendenhall did the astronomy kind of things. The department then was small, of course, right after the war. There was—who was that? Somebody in statistics, Carl Marshall.
- Gill** *And where was the Math Department housed?*
- Clark** In Quonset huts.
- Gill** *Quonset huts. (Laughs) I remember those.*
- Clark** Walking through—up here—I saw some pictures of those Quonset huts. Yes, that was the immediate expansion activities at that time. Also, we got together with the Japanese teachers, too. Horison was a very close friend of ours.
- Gill** *You mentioned Dr. Diamond—do you recall the faculty controversy over the loyalty oath? I think Dr. Diamond was one of your thesis advisors, and he actually resigned at Oklahoma State and went to the University of Kansas over the issue. Were you aware of that? Was that an issue when you were here?*
- Clark** Well, yes. There were a number of things going on. Well, as I say, I finished my master's in 1948 and left to take a job at Curtis Wright Corporation in Columbus, Ohio. I did return here the following year because they were starting a doctoral program, a new program, with Dr. [Nachman] Aronszajn who was quite famous. Dr. Diamond was very active in making things happen, I'll tell you that. (Laughs) So they started the doctoral program and then there must have been, I don't know, four or five of us, I guess.
- Gill** *Did they seek you out for the doctoral program? Did they tell you about it or did you find out about it some other ...*
- Clark** No. They invited me back. Yes, we were only in Ohio one year because I took a job with Curtis Wright Corporation which I found I didn't care for and my wife was pregnant with our second child at that time and I quit. I came home and told her I quit. She said, "You did what?" (Laughs) Well, the idea was—and of course you're young and brash to begin with and—I'll just go down to Ohio State, in Columbus and go to the Math Department and work on a doctorate there or something and get some teaching. So anyway, I went down there and the Math

Department didn't need anybody, but they said the Electrical Engineering Department was looking for somebody. Again, being young and brash I assume, I went over to the Electrical Engineering Department. Now electrical engineering, in at least theory, is all math, so it was just a matter of reading and keeping ahead of students essentially, but the problem is no matter what your rank there you had to teach labs, too. Now that was interesting. But anyway, that's what happened there. So I taught electrical engineering for a year there—and they wanted to keep me on, but as I say, Dr. Diamond and Dr. Aronszajn had this new program that was starting up and said, "Come back here and..."

Gill *Very attractive to you?*

Clark Yes. So we came back.

Gill *Were you a teaching assistant or research assistant or...*

Clark Oh, yes, research assistant. They had an office which was a research program with the Office of Naval Research (ONR) and that provided quite a bit of money, as a matter of fact. Then I taught, also.

Gill *I'm trying to recall, Dean Sheller Scroggs was Dean of the College of Arts and Sciences. Did you have classes with his son about that time?*

Clark I know the name, but I can't remember that I did.

Gill *Did you ever meet Dean Scroggs?*

Clark Well, yes. As I said...

Gill *Well what are your thoughts about him? What do you remember? He was a long-time, fairly influential person on campus for many, many years.*

Clark Oh, yes. Yes.

Gill *What was your recollection?*

Clark Well, I really can't remember. I can hardly remember Dr. Diamond or Dr. Aronszajn these days. (Laughter)

Gill *Dr. Leroy Folks, who for many years was head of the Math Department here, was an undergraduate student in the 1950s. Did you ever have any activity with him, any connection?*

Clark No. Oh, I'm trying to think of who replaced Dr. Diamond. There was

another man, and he was here for awhile. I believe Professor Wayne Johnson.

Gill *Dr. Jean Agnew?*

Clark Jean Agnew, I knew her well.

Gill *You knew her. Well she and Ted Agnew, her husband, taught on the History faculty...*

Clark Right.

Gill *...but Jean had that policy in place where if the husband was employed, the wife couldn't work. They finally changed that a little bit later.*

Clark Oh, is that right?

Gill *Yes. She was one of the best math instructors we had.*

Clark Oh, yes, very good.

Gill *What do you remember about Jean? Did you have a class with her?*

Clark Well, she was a fellow faculty member at that time. We did a lot of activities together, the whole department. I remember her as a graduate student—it seemed like it was Friday afternoon, a number of us gathered at a small—I would call it a beer joint these days ...

Gill *Hangout?*

Clark Hangout, that's right, (Laughter) and as I recall it was 3.2 beer because this was dry, that was ostensibly dry. (Laughs) So a number of us would gather there and get together. Of course, I remember her later because she went to all of the American Mathematical Society conferences and was responsible for gathering all the OSU graduates together and having—I think we had a breakfast every time—haven't gone to those in many years now.

Gill *Let's see, you mentioned Dr. Hamilton?*

Clark Yes, O. H. Hamilton.

Gill *I've heard of Professor Hamilton—he used the Moore Method...*

Clark Yes, out of Texas.

Gill *Out of Texas? What do you remember about the Moore Method?*

Clark Well, I'll tell you what I remember about the Moore Method. Dr. Allen was the other—I can't remember his first name now—when I first started graduate work, he was my ultimate professor. He was extremely prepared. He had every lecture written out and would proceed to go through that in great detail, written out and you could follow it just beautifully. It was something. I thought this was it but that's not it, it turned out.

Now O. H. Hamilton's method was the Moore Method. In terms of mathematics, you hand out a page of axioms, postulates, and theorems and of course there is nothing else. And what you do is go from these axioms, postulates and prove these theorems—nothing else. I thought I'd hit a different field of study even. It was radically different and very hard, very difficult, very frustrating. What this all came down to was—in a fairly short period of time after I got through that horrendous thing O. H. Hamilton was my thesis advisor and he was the ultimate teacher. I learned a lot because I taught many years later in the sense that presenting a beautiful lecture can be appreciated by the students, but what do they learn? They only learn if you essentially pose questions and queries and have them do things without them being told exactly what to do. They have to create and that was actually a method I used later.

Gill *Used that in your career then later, did you?*

Clark And that wasn't too popular with students at first, either. I taught at, well a number of places, but I taught at San Jose State University where I did essentially my academic work teaching later. I was teaching in the School of Business. I was teaching Quantitative Studies in the School of Business at this time. The new dean didn't appreciate it, because the students would complain. I would ask them something, and of course I hadn't told them yet and that was one of their complaints—"He hasn't even told us yet what..." That whole query method, I actually developed there at San Jose State under the acronym of DIRGIE. It was the method of Direction. And then Individual Response. They all had to even write a response because when you have to write something, you have to think on your own. Then there was Group Interaction. They were in small groups. They would get together and discuss their responses. And then Evaluation where I would call a member from each group and they would give a response and I'd write that on the board and then lecture which essentially was discussing what these responses were. It was always interesting.

Gill *Having three degrees from Oklahoma State University and being one of*

the first three individuals who received a PhD in mathematics...

Clark

That's right.

Gill

Do you take pride in that?

Clark

Oh, yes. We were the first three to receive the doctorate in mathematics. There could have been five in the program. George Pedrick went to University of Kansas and finished up there. The two other doctoral students were Abdul Gazem Zirachzedah, an Iranian student, and Dal Gerneth, who was a student from Texas.

Gill

Did you keep up with them over the years?

Clark

Yes, we maintained contact. They're both gone now, although I've talked to Abul's wife periodically. Dr. Zirachzedah ended up teaching at the University of Colorado in Boulder, and Dr. Gerneth taught at various places, but he was primarily associated with industry which I was for a number of years, too.

Gill

It sounds like from our conversation about the Moore Method that you—did you feel like your degrees and instruction, learning, your education at OSU prepared you for your career?

Clark

Oh, yes. Yes, very much. Well that technique (Laughs) left you with creating and taking material or what is there and thinking. Thinking was the idea, but it was so hard in the beginning, so hard.

Gill

Well, you alluded to a couple of things. Can you share briefly a little bit about your career, your professional career and your life after you left Oklahoma State University?

Clark

Yes, let's see. I got the doctorate in 1953 and I took a job with Continental Oil Company in Ponca City in the Geophysical Research Department. The primary activity that I did there was analysis work for a new geophysical mapping technique where instead of using dynamite and have geophones arranged to try and map the underground, that they used a technique—we developed this technique of—it's actually trade named Vibrosys, where we used the controlled frequencies. That is, it was large machinery essentially tied to the ground where we did vibration at various frequencies and used that technique because you could use that in urban areas. And having just returned from Conoco Museum, that was a big thing up there—many companies, I was told, tried to break that patent. The patent came in 1955. I was there from '53 to '56 during the development. It became worldwide and is the primary technique used today.

So I left there right at the peak of that activity, but a couple of things I wanted to do: study with Dr. Tarsky at the University of California in Berkeley, and I had received an appointment at the Naval Postgraduate School in Monterey, California to teach—and so it seemed like we should go. We were heading to California, and in California, *Sputnik*... What happened is I ran into a bunch of colleagues from various universities there, and they said, “Why don’t you talk to Lockheed? They’re gonna open up a research facility in Palo Alto, and they’re looking for people.” Well, I talked to them. They said, “What are you making at the postgraduate school?” They doubled that.

Gill

Berkeley didn’t look near as attractive...

Clark

Well, and they said, “You won’t have any activities for the first year. You can do post-doctoral work at Stanford and various other things.” Yes. So I never made it to the Postgraduate School. I was with Lockheed essentially doing basic research and, of course, at that time electronic computers were starting to come on, the development of them. You didn’t go out and buy an IBM; everybody built their own, and they were in huge rooms. But one of the primary things I did there was develop a mathematical business system model. That was new. Nobody had done that. At corporate Lockheed, which was in Burbank, they said, “Would you be interested in doing that?”

Now my degree, by the way, my mathematics degree, was in pure mathematics, not applied. Lockheed had gathered over 50 PhDs in mathematics at that time with essentially no assignments because they were, of course, looking for big contracts—which came, and so all of that did develop. I decided that I really should stay there and work on that, and even though my degree was in pure mathematics, closure relation [C-R] algebra was my thesis topic I said, “I could be interested in doing that.” Well it turns out that’s the kind of thing that’s an operations researcher does these days but at that time it didn’t have a name and there was nothing around like it. So what I had to do was essentially study the corporate structure and the operations of Lockheed and try to model that mathematically, which we did. But these days (Laughs) the computer capabilities makes it look easier now. So I was with Lockheed for about five years. Then they lost some contracts and as a result of that I was laid off.

This was an unbelievable emotional problem. I was a hotshot PhD working with a corporate office and so forth. However, they were kind how they did it. Then I went with Sylvania Corporation which had a research lab there. So it wasn’t that bad, of course, but at the time it seemed like it. I was with Sylvania about three years or something like that—four years I guess it was—same thing happened to them. In fact,

as I was into some research they said, “Well, finish that up.” So it was two or three months later and I interviewed for a job at Matson Lines which was doing operations research (OR) work in developing, at that time, a brand new concept, containerization. Would I be interested in that?

Well it sounded interesting, and that was in San Francisco, but at the same time I interviewed with Texas Instruments in Dallas—or Richardson, north of Dallas. They wined and dined us unbelievably, kept flying us back there and now I know what it means to be seduced. (Laughs) I said, “Hey, we’ll do it.” So we moved to Texas. We sold everything in California because I knew that would be a problem, and also the idea was we’ll go back to the Southwest. Well Texas is not Oklahoma. It’s some other foreign country. (Laughs) Everybody was very nice, and we never lived so well—a beautiful home and unbelievable lifestyle, but we—I don’t know. It wasn’t Oklahoma to begin with and so as a result we were only down there two or three years, I think.

So then I came back to California. Northrup Corporation had a research lab in the Bay area, Astrotechnology, and had me come back to that and I headed up a department there and that went for another four years and it folded. Now Northrup wanted me to come to the headquarters in southern California, and we didn’t want to go to southern California. California consists of two states, northern California and southern California—they’re radically different, really—but as a result of that [they established Northrup Advanced Studies in the San Francisco Bay area for me to head up.]

After about five years I went with a new organization called Underwater Sciences that was doing research work in all kinds of underwater activity, and wanted me to come there and head up the research department. So I did that. One of the things they were developing was underwater techniques for gold mining, which—the potential was very lucrative. Another area they were doing, new techniques for dredging reservoirs, and there was some industrial sabotage—our competitors were using older techniques and they actually physically blew our operation right out of the water, literally, and the company never recovered from that.

Now in the meantime, I had contracts with the China Lake Navy developing mathematical models for weapons. We were in Vietnam then, too, so we could essentially study the effects of blowing up power plants and so forth without blowing them up of course. I novated those contracts and opened my own company, Interscience Systems, Inc. and took those contracts that were still there from Underwater Sciences and

ran those for another four years—always, by the way, teaching on the side. I always taught evening programs and so forth.

Gill *Was this last one your own businesses you're talking about or ...*

Clark Right, Interscience Systems. I was very active, for awhile. Then, as I say, I was always teaching on the side and so forth. Well the other thing I would do in terms of academics is every spring I'd think, "I'm going to go teaching full-time someplace." So now that was in March when you interview. I'd fly around the country various places, Utah, Idaho, Virginia, West Virginia, a number of places. I'd get there and, of course, it was very bleak looking. March was—trees were still sticks, you know, and in March in northern California, that's when Spring starts, I mean, everything is blossoming and it's green. "I don't know. I don't think I can leave this area."

Gill *Did you ever get back into...*

Clark Well, I did. I finally did. Yes. Then due to this variety, it was five years here, five years there, and at that time there was not a retirement benefit that you could carry from place to place. They were always cashed out and it seemed like I better get someplace and now it seemed appropriate that the full time academic world might do it. So I made local contact with San Jose State University. I did not teach in the Mathematics Department, I taught in three different schools: engineering, social sciences, and business. All of these areas, by the way, had—and that's true of almost every discipline—started to move into the quantitative side of things, building models and so forth. Due to my real general background, I was able to do this. The discipline wasn't that important. The Dean of the Engineering said, "Everything is too narrow. We need to develop a systems program in general systems theory," and so I helped develop the graduate program there called Cybernetic Systems and that was a program that was involved with general systems.

Of course, one of the systems I had studied in detail was the business system of Lockheed Corporation. So as a result of that, the business school got a hold of me and said, "What about teaching in our quantitative area here?" and that was very interesting. I eventually went with the School of Business. My professorship was at the School of Business in Quantitative Studies and Decision Sciences. [I developed a detailed model of a general business system.] One of the big areas that was starting was Information Systems or Management Information Systems. So that's essentially where I ended up the last eight, nine years in the academic field, and then I retired from there in 1989 at the peak of information system research. I didn't feel that it was time for me to retire exactly, although in terms of retirement credits at university and a

number of other things, it seemed appropriate to do that.

Gill *You live in the state of Washington. Is that correct?*

Clark Yes, right now. Well, we still live in California in the Santa Cruz Mountains.

Gill *Two homes?*

Clark We spend about two months or so in Washington and then we come down to California for about a month or so.

Gill *You've got to go back to California. Don't you have grandkids or kids ...*

Clark Yes, we have grandchildren. All our children live in the Bay area, essentially. Well, one of them is a county planner in San Luis Obispo. We had three daughters and now we have three great-grandchildren. They're all in California. So there's always something taking place there—birthdays, weddings, something, so that's why we kept the house there actually.

Gill *This is your first time back here in many, many years—what do you think of your alma mater now?*

Clark Oh, my... (Laughs) It has been over 50 years.

Gill *Have you been on campus? Were you able to find some of the ...*

Clark Well, luckily, you sent me a map—and it took me awhile to find what I call the original campus. I did that by saying, "Here's the fire station. That's still there."

Gill *Old Central.*

Clark Old Central, yes, and then I started to—that part of the campus, I could identify with essentially all...

Gill *You remember the Student Union. It was here a couple of years before you left, right?*

Clark Yes, the Student Union, but I think it's expanded maybe ...

Gill *It has.*

Clark It must be because I'm looking at the map. This wasn't the size it was before. But yes, it was essentially new, more or less. The Student Union

was such a nice place.

- Gill** *Are you proud of the growth of your alma mater?*
- Clark** Oh, yes. That was the other thing. Mathematically it's grown very great.
- Gill** *How do you feel about the Math Department? Have you had a chance or are you going to go over and visit?*
- Clark** I am going to visit this afternoon.
- Gill** *You talked about your meetings with Jean Agnew at your national meetings and you followed OSU heavily through the years and stay connected...*
- Clark** Yes. Oh, yes. I can't think of the name right now, maybe it was Mathematical Research Institute or something like that—is in the Palo Alto area, and that's headed up by a professor who was here at OSU.
- Gill** *That's great. Through some of your correspondence and some of your meetings have you stayed connected to OSU?*
- Clark** I haven't stayed that connected at all, but I am connected again.
- Gill** *That's great.*
- Clark** I'm back here.
- Gill** *Well, let me follow that a little bit. Looking back, are there some special memories, favorite times you had at OSU in your experience here?*
- Clark** Well, the doctoral program was very, very intense so there wasn't a lot of activity other than what I mentioned. It seemed like once a week on Friday afternoon a lot of us would gather up there at this—I'd call it a beer joint, I don't know. It was a brand new one; it's not even there now, I guess. I couldn't find it.
- Gill** *And it sounded like Dr. Hamilton's Moore Method was a mixed blessing, but it's been a special memory for you.*
- Clark** Oh, yes. Well, it's the only way to teach. I mean, every individual does a slightly different technique on the Moore Method, but it requires you to be creative and think and...
- Gill** *Finally, did your OSU background experience serve you well, in your career experience? Did your training in mathematics here at OSU and*

your OSU experience serve you well?

Clark Oh, served me extremely well. It was in pure mathematics, but as a result of that—it's sort of like the classical pianist that once you know a lot about the basics of it all, then you're able to really do anything from that. You see, I went from pure mathematics into essentially applied math. By the way, pure mathematics is a lonely business. There are five people in the country that know what you're talking about. One of them was Dr. Tarsky, but socially it's not that great I guess. So I went into applied mathematics and then the engineering aspects of things. Then into, well, the various industries that were involved, and then into the quantitative area in business. So as a result of the training here, the basic and the breadth of that, I was able to feel comfortable and do anything really. I don't know how much quantitative activity is involved in history these days. (Laughs) Not that much.

Gill *That's a great testimony to your background here. Dr. Clark, in closing, anything else you'd like to bring up or mention that we haven't talked about?*

Clark After I retired from San Jose State, I felt at the peak really in terms of intellectual activity, I took a position at the College of Notre Dame in Belmont, California, which is a private school, in their graduate program. All during this time I had developed—I didn't use standard textbooks—I had developed my own manuscripts for all of these courses actually, and also Information Systems was another area that I had gone into big-time. The College of Notre Dame wanted somebody to take their graduate program in the Quantitative Studies area and Information Systems. So I went with them, and that was the best teaching in the sense it was all graduate students. The maximum was ten in a class and I rotated through these four syllabus manuscripts that I had written, and I did that for another—I guess it was eight years or something like that. So, yes, that was something I'd forgotten about.

Gill *Dr. Clark, thank you very much for taking the time with me today, and welcome back to OSU and Homecoming. Do you remember Homecoming?*

Clark Oh, I remember it—great—I remember the parades.

Gill *You're going to see the parade tomorrow. You're going to see some house decorations. What do you remember from Homecoming back when you were here?*

Clark Well, the thing I remember—actually the house decorations at that time was something, but it wasn't the big thing as I understand now is really

big.

Gill *Huge.*

Clark Walk Around is, as I found out. But I remember the parade, and I was...

Gill *Floats...*

Clark Yes, and of course the other thing I remember about in terms of the athletic situation, that's when Hank Iba was here and basketball—and wrestling was big, too—but basketball was really one of the top in the country. And of course the football stadium, something changed over there.

Gill *And at Gallagher Iba Arena.*

Clark Yes. Unbelievable. We're looking forward to that.

Gill *Well, thank you very much. I appreciate it.*

Clark You're welcome.

----- *End of interview* -----