

**THE DEPARTMENT OF ENERGY ORAL HISTORY
PRESENTATION PROGRAM**

OAK RIDGE, TENNESSEE

AN INTERVIEW WITH JANE LARSON

FOR THE

**OAK RIDGE NATIONAL LABORATORY
ORAL HISTORY PROJECT**

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STOW: Today, we're talking with Jane Larson. Jane came to Oak Ridge in the early 1940s to work on the Manhattan Project at Y-12 and went on to a very long and very distinguished career - not only at Oak Ridge, but elsewhere. This is going to be an interesting hour, so we look forward to it.

Jane, you majored in English at Swarthmore College in Pennsylvania. I believe that was your major, wasn't it?

LARSON: Yes, it was.

STOW: Who got you interested in that subject, originally?

LARSON: Well, I do think it was my mother. I look back and she was a writer from her Nebraska beginnings. And, down at Canandaigua Lake, where we had a camp, when it was possible -- there were two younger brothers and myself, and I eventually got old enough so I could watch my brothers -- she would retire to a little cabin we'd built and write all morning, just furiously ...

STOW: So, it's in the blood.

LARSON: It's sort of in the blood. I was certainly writing in high school and I still have some of those manuscripts. I made a book by typing pages of stories about that camp and then bound them. And so, I was all primed in Swarthmore to go on and do that.

STOW: What took you to Swarthmore?

LARSON: Well, I had good grades in high school, and Mother felt that I should do my best in Swarthmore. I can't quite remember where the context came from, but she knew it was a very high-class place.

STOW: Oh, yes -- it is. You came with a degree in English to work at Y-12, as I understand.

LARSON: Yes, I did. I finished up actually at the University of Rochester (New York), because, after two years at Swarthmore, the war was coming and my father had to get the two boys through school. And he said he couldn't afford [to educate us all unless I came to the University of Rochester]. He was a professor of radiology at the University, so he could essentially send me there for free.

STOW: Well, we'll talk about your father a little bit later on ...

LARSON: Good.

STOW: As a radiologist, he was the chief medical officer for the Manhattan Project.

LARSON: Right.

STOW: Did that influence your coming to Oak Ridge in any way? What brought you to Oak Ridge?

LARSON: Well, I got married in the summer after I graduated in 1943 with a college degree. My new husband had a job with Eastman Kodak in Rochester.

STOW: Yes, that's right.

LARSON: ... And my father knew him. Later, I went to Eastman Kodak for a job. Then he was assigned to go to Oak Ridge and work on computers. He was very smart...

STOW: I see.

LARSON: [We moved to Oak Ridge.] He started the computer department. I got a job right away because Tennessee Eastman was hiring.

STOW: Tennessee Eastman ran the Y-12 Plant, of course.

LARSON: That's right.

STOW: So, you came to Oak Ridge in late 1943. What were your impressions of Oak Ridge at the time? I mean, it was known as "Dog Patch" to a lot of people ...

LARSON: It was, indeed. It was fascinating. And, of course, I'd had a good practice run on Canandaigua Lake, because we had this camp that started from nothing, and we built the houses and all that. So, I fit right in --I loved it. And, at first I had to live in the girl's dorm, and [my husband] Fred was in the boy's dorm. But we watched all those houses being built, and the [builders] did a beautiful job. They were fast, but the houses were on good platforms and they were strongly built..

STOW: So, did you get a cements house?

LARSON: Yes, eventually we did. Because his mother lived with us ...

STOW: All right. What was it, a B or C or a D ...?

LARSON: I think it was an A.

STOW: An A -- the smallest of them.

LARSON: Right.

STOW: And, you fit right in there. You liked the mud and the lines and ... (laughs)

LARSON: Absolutely. And, my big memory is walking down through the woods on one of those wooden boardwalks. We pounded those boardwalks hard. We just loved them.

STOW: Well, I guess you didn't have much choice other than the boardwalks or the mud, right?

LARSON: (laughs) Well, ... it was through the forest, you know. You could trip and fall. Of course, I was used to walking through the woods, but a lot of people weren't.

STOW: So, you started your career at Y-12. Tell us a little bit about what you did there to start off with ...

LARSON: Well, actually ... first...

STOW: Because you were a science writer ...

LARSON: ... I worked for [Jim Cagney] -- I think his name was -- who was superintendent of Y-12, and I was to be a historian. But, they soon realized, as did I, that it was an elusive topic, because nothing had happened yet -- we were building.

STOW: That's right.

LARSON: So, I would sort of grasp around trying to figure out what to say. They sent me down to 9731, which I think was the first building built among the industrial part ...

STOW: It may have been. I don't know.

LARSON: ... And, it was for research on the calutrons. The calutrons were broken down already into A and B. The A calutrons were the big ones, and the Bs were going to be smaller. They were working on the A side of the building when I first went down there. And, there was nothing else around. I was the science reporter so they called me to report on what was going on. Well, you know, I was not a science major, so I had to pick up [some understanding of science].

STOW: Sure.

LARSON: But, my father was a scientist --I loved science -- somehow, it was in my blood, and I just picked it up real fast.

STOW: Well, where did your parents live at this time?

LARSON: Rochester, New York. But in December, Mother told me that they were moving down to Oak Ridge. And, they got a house right away on West Outer Drive in December '44.

STOW: Did you understand, at that time, the magnitude of the Manhattan Project? Did you know about K-25 and X-10?

LARSON: No.

STOW: Did you even know what was going on at Y-12?

LARSON: No. I mean, I knew they were separating isotopes. It was a big deal. I think I probably knew it was uranium. It was very high in the ladder of elements, and [I had heard that separating uranium isotopes was] a very difficult, almost impossible job. And so, I followed it very closely. I eventually had my office up on a terrace above the floor. The calutrons were over here and the people worked down here. But, I was up in that sort of eerie, little "bird's nest" up here.

STOW: And so, your job was to write up ...

LARSON: What was going on .

STOW: What was going on? What has ever happened to those reports that you wrote? Do you know?

LARSON: That's what I've been asking since I've been here, because there are so many knowledgeable Oak Ridge people. Finally, of course, I worked as an editor and an information specialist, and I was in charge of the department - thirty-two women worked for me. Bless them - I hope I did right by them. But, we had quite a file. It got so voluminous that just before I left in the '50s, we put all our files over in the first production building (A), which by then was empty. The calutrons had been moved to the B race tracks [in the second isotopes production building].

STOW: Yes.

LARSON: And so, this was a good, big hall where I could put everything. But, then I've wondered, ever since, are they still there? You see, all of our reports were classified. After I would get one done, and the authors agreed with it, then we printed and mimeographed it. We issued a series of something like twenty-six copies [of each report]. And, nineteen of them we mailed out -- they were all secret -- to various scientists. We filed the others.

STOW: I'm going to follow up and try to find out where those reports ended up.

LARSON: I hope you can.

STOW: Well, I was over there several months ago and got a tour of the calutrons that were used later for stable isotope separation. And, I remember seeing boxes of papers, some of which were laid out on a table. There were papers signed by Eugene Wigner ...

LARSON: Oh, my...

STOW: ... So, I mean, they may still be there.

LARSON: That's it.

STOW: I'll look into that, and we'll let you know.

LARSON: Oh, thank you! I would really appreciate that, because I think that was a very important file -- it seems to me.

STOW: Where were you on August 6, 1945, when the first bomb was dropped?

LARSON: Well, I must have been working, but it so overwhelmed me, the story about my husband. At that time, he was not my husband. We married in '57.

STOW: This is Clarence Larson.

LARSON: Clarence, yes. On August 6, 1945, I was working, and it didn't make much of an impact. What I remember is the book that came out immediately by then ...

STOW: *The Smyth Report*.

LARSON: *The Smyth Report*. I was already taking care of the library also, [even though I had] never gone to library school. But, I was the technical librarian. I began to learn Russian a little later. But, [the dropping of the atomic bomb] didn't really impinge on me, except that we got *The Smyth Report* and I thought, "Gee, I didn't know this was publishable." And, some of the stuff I'd been writing wasn't so secret now, so it could be declassified. But then, a little later, Dick Smyser wrote this story up twice for *The Oak Ridger* newspaper. The story was that somebody stuck his head in Clarence's lab and said, "Hey, they dropped the bomb." And, there was a little silence, and Clarence asked, "Did it go off?"

STOW: (laughs) And it did, of course ...

LARSON: And it did, of course, but that was a result of the hardest kind of work. We all worked so hard, you know. And, they got a hundred more chemists. Can you imagine getting that many new people just to come and struggle with trying to get the uranium-235 out [of the calutrons].

STOW: Sure.

LARSON: ... and we couldn't. I mean, they finally did, just at the last second.

STOW: Was there a lot of celebration at the time, or do you recall?

LARSON: It's hard to recall. I think I remember a big crowd in the square in Town Site [Jackson Square in Oak Ridge]. And, people kissing and so on [as they celebrated the end of the war].

STOW: Okay. Now, you stayed at Y-12 until 1952, I believe. Then you went to the Rand Corporation. What did you continue to do at Y-12 for those intervening years?

LARSON: Well, I stayed there and everybody who had to reproduce [images and text] came to us. We were filing and I was still editing, so there was plenty to do. I can remember when I finally decided to leave. I went to Los Angeles, where my father was beginning to build a medical school, and that's where I started work at Rand. Then, I came to Rand later in Washington, D.C. But I was really quite busy and I can remember talking to the woman who was going to take my place. It took me weeks to really cover everything [that had to be done on the job]. I was thinking ... yackety-yack ... I'm not giving her a chance to say a word. It wasn't very fair, so I stopped. But, she was going to have her hands full. It was a lot to do.

STOW: Well, now, you mentioned Clarence Larson a moment ago, and you got married in 1957...

LARSON: 1957. In the meantime, I had divorced Fred. I can remember going into his home early on in the '40s, I think, to watch the first television program [I had ever seen].

STOW: That's what I was going to ask you. When did you first meet Clarence?

LARSON: Well, it was early really. He was always my boss's boss, essentially. And, his wife was ill and died.

STOW: I see.

LARSON: But at the time, he had this party for his people in his bailiwick. We went to his home, and I remember he was the first one in Oak Ridge to be able to operate a television set. He turned it on, and doggone, he couldn't get anything but snow that night. (laughter)

LARSON: But still, we were mighty impressed. He told us about it.

STOW: Well, at that time he was head of Y-12 -- in 1948, I believe -- and then [he] came over as director of Oak Ridge National Laboratory in 1950.

LARSON: It's kind of fuzzy to me, but...

STOW: Yes. And, then, you both got married in '57. I understand that there was some person who was rather famous who was best man at your wedding.

LARSON: E. O. Lawrence.

STOW: E. O. Lawrence. Yes.

LARSON: He was the one who designed the calutrons [cyclotrons at the University of California] at Berkeley, and that's where my husband had been for his Ph.D., so he followed the calutrons and E. O. Lawrence to Oak Ridge. And he was there -- with that process the whole way through. He was the one who saved it, because they could not get that chemistry right until he finally came up with a method ...

STOW: That was the copper plating. Was it on the receivers?

LARSON: Well, on the e-boxes. Yes. They had to go to a new coating on the inside so that it didn't splatter. Actually, even after they coated the e-boxes, it was splattered all over the machine. So, they had to find ways of dissolving that off.

STOW: Yes, as I recall, the uranium-235 was getting embedded in the steel ...

LARSON: That's exactly it.

STOW: ... And, they couldn't recover it, so Clarence Larson said, "Why don't we coat the steel or plate it with copper. And then, we can dissolve the copper, recover the uranium, and re-plate the steel again with more copper."

LARSON: There you go. Yes, that's right.

STOW: And that actually saved the process, didn't it?

LARSON: That's right.

STOW: Yes. Did you get to know Ernest Lawrence at all?

LARSON: A little bit.

STOW: Tell us what he was like in your recollection, or do you have any real recollection of him?

LARSON: Well, I haven't thought about him for so many years.

STOW: Caught you off guard with that one, didn't I.

LARSON: (laughs) I'm afraid you did! I was proud to know him. He had a lot of irons in the fire, I thought.

STOW: Very highly regarded man ...

LARSON: Oh, yes.

STOW: ... I mean, his charisma and authority were very highly respected.

LARSON: Right. But, I don't recall seeing him too much at Y-12. and so ...

STOW: All right.

LARSON: ... I don't know whether that's actually what occurred, or I was just too low on the scale to see him.

STOW: Let's go back a little bit here, before we get too far down the road in your career. I wanted to get your thoughts about the work environment from a woman's standpoint during the war years. I mean, it's fairly well accepted now that women were not in significant positions of authority and administration during the war years, or even after the war. As we look back, you might even say that there was discrimination against women during those years. Can you reflect back on your feelings as a woman employee at the time and whether you felt any discrimination at that point?

LARSON: Well, you know, it's a very profound subject. And, of course, I'd had quite a bit of experience in not being allowed to become a doctor, because I was a woman. I had four children and never had a practice, so what's the point? So, I was prepared. When I was hired, I was flattered. I thought that being a reporter was a lot better than being a secretary ...

STOW: Well, yes.

LARSON: ... And, of course, I was ready to do that. I mean, I could type and so on.

STOW: Sure.

LARSON: So, I really, for myself, was pretty satisfied as an English major who could do writing and so on. I could supervise and I liked that. And people seemed to accept my supervision. But, I think the most profound thing I noticed was that my high school friend Ann Bishop -- who became Ann McKusick eventually -- had wanted to be a doctor, but sure enough, they didn't encourage her, so she went into physics ...

STOW: (laughs)

LARSON: ... And therefore, she was hired as a physicist.

STOW: Is that right? At where, Y-12?

LARSON: At Y-12.

STOW: Okay.

LARSON: She lived in a D house with five other girls. I used to go visit her. But, the thing was, they never gave her anything very important to do. And, every time I saw her, she was kind of glum and bored, and she left as soon as she could. I think it was after ten months, so she probably didn't get there till nearly the end of the war. But then, she went to [McGill University Medical School] in Canada, and oh, she loved it. And, she got a very good job at Johns Hopkins University in Baltimore, Maryland. She specialized in arthritis and married this famous founder of the Human Genome project – McKusick -- and had a wonderful life. She did have four kids ...

STOW: (laughs)

LARSON: ... But, she had a nanny. And so, everything worked out. She had to go to McGill to get her medical training. They wouldn't take her at Rochester ...

STOW: They wouldn't, huh?

LARSON: ... She was a girl. And then, I finally got to know a woman who did go to medical school at Rochester -- the first one. Her name was Valarie Rositsky and she immediately got tuberculosis. And so, see there? (laughs)

STOW: The exception to the rule -- by all means. Did you feel in your job any animosity toward women in the workplace?

LARSON: No. I think everything was all right. Nell Parks was a wonderful secretary to the division head, and she knew as much as her boss, practically. And, we all knew she was great. She got a lot of praise and love. Now, I don't know, maybe that made up for the fact that she could have been a more important person [with more responsibility].

STOW: All right. Speaking of important persons, let's talk about your mother for a moment.

LARSON: Yes.

STOW: She was very influential in your career, I gather -- you've mentioned that.

LARSON: Oh, yes.

STOW: And then, she was very influential in the community in Oak Ridge, during those early years. Can you expand on that a little bit?

LARSON: Well, she came here realizing that the men had important jobs and were gone long hours. The women were left on the beach. If they had children, fine, but in a great many cases, the children were grown and gone. And so, women needed things to do with themselves and each other. That's why she started the Women's Club and a book club. Then she started writing for the newspaper. And, her articles were all about, you know, homemakers and various things they'd be interested in.

STOW: Have you got any of those articles today, or are they long gone?

LARSON: I don't. I wish ... I hope and pray the *The Oak Ridger* has a file. I did want to say one more thing [about women and work]. I knew a Virginia Tidwell, who was trying to get a job early in the war ...

STOW: Yes.

LARSON: She went to Standard Oil [for an interview and was asked], "Do you type?" She said no. The reply was, "Sorry, women are only hired as secretaries, nurses, or teachers. Thanks for coming in." So then she went to Washington -- the State Department -- and got the same answer. And, she came to Oak Ridge. When they found that she couldn't type, she was offered a position in the personnel department reviewing employment applications.

STOW: Okay.

LARSON: So, I mean, it was hard to find a job, but she finally did find one in Oak Ridge. I think the message there is that Oak Ridge needed people desperately to fill a variety of jobs. (laughs)

STOW: Well, they certainly did. They needed women, especially high school trained women to operate those calutrons.

LARSON: Some men were just astounded ... horrified. But, it worked out wonderfully.

STOW: I understand Ernest Lawrence was astounded that women could operate the calutrons and the scientists couldn't...

LARSON: I'm not surprised. (laughs)

STOW: ... The men kept getting in there ...

LARSON: Yes, they got too curious.

STOW: After the war was over, atomic energy, of course, was on the forefront in everybody's mind, and there was a considerable debate as to whether the future of atomic energy was going to be managed by the Army or by the civilian side of things. You were a little bit involved in some of those activities, were you not?

LARSON: Well, not consciously, I don't think. By then, I was at Rand or raising babies.

STOW: Well, I'm back in 1946 now ...

LARSON: Oh, are you?

STOW: Yes, because ... You didn't get involved in any of the activities dealing with the civilian versus the military.

LARSON: It's funny, no. I'm learning about it from Ted Rockwell's new book *Searching for the New World*. He talks about it.

STOW: I've got that book ordered. I haven't read it yet.

LARSON: I read it just before I came. It's good.

STOW: Let's jump back and talk a little bit about Clarence Larson. He obviously went on to have an extremely prestigious career.

LARSON: Oh, yes.

STOW: ... And as president, I believe, of part of Union Carbide Corporation.

LARSON: Yes, he was research director of all of Carbide's research.

STOW: Yes, research director ... and then ultimately, to the Atomic Energy Commission, where he became a member and chair. So, that meant you moved around a reasonable amount, didn't you?

LARSON: Well, we did. Mostly it was back and forth from Oak Ridge to New York. Then, when he was appointed AEC commissioner, we came to Washington, and we've lived in D.C. now thirty-five years. But, he had very wide interests. I thought he had a very interesting job. And, when he retired -- I think it was in 1975 -- he decided that we should take advantage of all of the wisdom [we had acquired]. We'd been to Russia and other countries. So we started *Pioneers of Science and Technology*.

STOW: Okay.

LARSON: We videotaped many interviews. We'd gone to Montgomery College -- the two of us -- and went through their program for making you a director of television programs. So, we got all the equipment and I was cameraman. He designed the questions. And, we went all around the country. We did some fifty interviews with fascinating scientists like Linus Pauling, the man who invented the laser, Al Weinberg, of course, and all the other nuclear people. Clarence, by then, knew a great many people who were first-class scientists, who had done a great deal for the world and for the country.

STOW: I'm sure he did know a lot of people. What were some of his strengths as you look back on him as a husband and as a man and a leading scientist and manager?

LARSON: Well, you know, he was very quiet but kind and thoughtful, and everything that he would decide would be a good sturdy, proper answer. I mean, he really got to the bottom of problems and solved them. And, I felt so secure living with him. I For everything he wanted to do, I would say, "Yes sir!"-- we'd do it. (laughs)

STOW: Did he share a lot of his job with you? I mean, the problems ...

LARSON: No, not a lot.

STOW: ... and the high points, and so on?

LARSON: Well, all the high points I was part of, you know. We would have the head of the Russian Atomic Power Program, plus the rest of this party, for dinner, and that was a fantastic evening. There were so many people coming. I had to have tables out in the garden in the back. I had a workout as a hostess. (laughs)

STOW: But, you enjoyed every second of it, I bet.

LARSON: I did -- I really did.

STOW: Yes. You've talked about the videotaping of a lot of the pioneer scientists, many of whom were active in the Manhattan Project.

LARSON: Oh, yes.

STOW: What about Eugene Wigner. Did you interact with him at all?

LARSON: Oh, yes. Absolutely.

STOW: Tell us a little bit about him.

LARSON: Well, of course, Clarence knew him very well...

STOW: Sure.

LARSON: ... And, he was very kind to me. He was a very quiet, sweet man. And one thing stands out. I saw him perhaps four or five times. The last time he was wandering around in the motel at Oak Ridge as though he was kind of lost, and we stopped and asked if we could help. I think he'd started with the problems of old age, you know.

STOW: What year would this be? Do you have any recollection?

LARSON: Oh, golly. Well, it must have been maybe '74 or so.

STOW: Yes.

LARSON: But, the story I do like to tell about him was when we were in Oak Ridge, building our house. And, somehow, we had lunch with him. And, after lunch, he asked if I'd go for a little walk with him and I said, "Sure." Clarence had calls or something to make. And, we got out there and he said, "Now, I want..." Oh, I had just been responsible, I guess you'd say, for building the Art Center.

STOW: Yes, I want to talk to you about that in a few minutes ...

LARSON: Well, he knew that it was a successful venture. We didn't ask the government for any money at all. So, he was saying to me, "Now, if we wanted to put a bomb shelter in every house in Oak Ridge, do you think that would be possible?" (laughter) And, so we talked the ups and downs of that for a while. It was kind of interesting. But, it seemed to me it was almost impossible. How are you going to do that?

STOW: Well, you know, he was instrumental in bringing the Civil Defense Program to Oak Ridge National Laboratory, and Joanne Gailar, whom you know, was involved with that.

LARSON: Right. Well, I'm just learning about some of this. I knew he was in Oak Ridge for that kind of problem. He was quite concerned.

STOW: Well, he was a fine man, I understand.

LARSON: Yes, he was.

STOW: I never had the honor of meeting him, but everybody has good things to say about him.

LARSON: And, to finish that story I was going to say that, when we got our house built, we built a bomb shelter down in the basement. (laughs)

STOW: And, the house is still there?

LARSON: It's still there. I went to see it yesterday, and it's almost beyond recognition. Nobody was home, but I did have the courage to go up the side yard to see what was in the back. You could see our bomb shelter -- the entrance to it in the old days.

STOW: Is that right?

LARSON: But, I couldn't see anything now. They're working back there furiously. We had a swimming pool. And it's still there. But, what's going on around there -- looks like the bomb shelter is being made into something else.

STOW: Maybe a wine cellar or something.

LARSON: I don't know. Might be.

STOW: What about Alvin Weinberg? You must have had interactions with Alvin over the years.

LARSON: Yes, of course, we did.

STOW: Clarence must have known him pretty well.

LARSON: Oh, yes. And I knew Marge. They were very supportive early on when I got [involved in] the Art Center because of my clay work. I had my potter's wheel in the garage. She was very interested in that, bless her heart. And then, she got ill, and I remember walking around to go to the car after a dinner there and she told me about her illness. You know, I can see her yet. But Alvin is such a sweetheart. He went through an awfully agonizing period when we were in Rye, New York. I can remember when we had a meal with him. He was telling us how he didn't eat much breakfast because he was by himself, you know. But, very soon thereafter, he met Gene DePersio, who had divorced her husband [with whom we also were] good friends. John was my doctor for many years and a very good friend of Clarence's. And so, they finally [Gene and Alvin] married, and I thought that was a union made in heaven. They were both just wonderful people, and they've had a good life.

STOW: Well. Alvin's a fine man and we'll be talking to him here at the end of the month.

LARSON: Oh, really? Good.

STOW: Yes, we'll be trying to get some of his recollections.

LARSON: Mind you, we're in the Alvin Weinberg Auditorium right now. (laughs)

STOW: Well, we are. (laughs)

LARSON: We've tried to say thank you to the man. It's hard, though.

STOW: Now, we'll continue to say thank you to him for a long, long time, that's for sure.

LARSON: Yes.

STOW: Looking back at your husband, Clarence, what do you think he would identify, if he could today, as his greatest legacy to the Oak Ridge story? I mean, he was here in so many different capacities.

LARSON: Yes, he was. Well, I think he never really forgot the fact that he got the U-235 material together, got it to Los Alamos [where it was loaded into the atomic bomb designed there], got the bomb in the Enola Gay [airplane], and got it [flown] to Hiroshima, Japan, where it was dropped, and it worked. I mean, that was the high point of his life.

STOW: The bomb went off.

LARSON: The bomb went off. I can remember that I didn't know him well then -- he was my boss's boss ... but I realized that he was in charge of the effort and General Groves was on his back, "We can't wait any longer," Groves told Clarence. I mean July had gone by [and the U.S. had finished bombing Tokyo].

STOW: Yes.

LARSON: You haven't got [the bomb ready yet]. Now what? Shall we go in? I had a cousin who was going to be involved, you know.

STOW: Well, the Americans were about to invade Japan, weren't we?

LARSON: You bet. And so, Clarence was working night and day.

STOW: Did Clarence ever get, do you think, adequate recognition for that contribution that he made?

LARSON: Well, I think he felt that being an AEC commissioner later was quite an honor.

STOW: Oh, yes.

LARSON: And, I don't know -- I never heard him talk about things like that.

STOW: I see. Okay.

LARSON: But, I feel he could have been awarded a little something.

STOW: You mentioned Leslie Groves.

LARSON: Yes.

STOW: Did you ever have an opportunity to meet Groves, or to interact with him?

LARSON: Well, I just knew that he was on Clarence's back.

STOW: Yes.

LARSON: And now, my friend Virginia Tidwell's mother worked for Groves. And, he was always sort of in our thoughts. But, I knew he was ... he was hell on wheels. (laughs)

STOW: Yes. I won't tell you right now what Kenneth Nichol's quotation was about Groves ...

LARSON: Oh, really? I knew them very well.

STOW: Well, I will tell you. He's quoted as saying "Leslie Groves was the biggest SOB I've ever met in my life."

LARSON: (laughs)

STOW: "He was arrogant. He was intimidating." And, he goes on and on. And then he says, "If I had an opportunity to pick again someone to work for during the Army, it would be Leslie Groves."

LARSON: Did he say that?

STOW: Yes.

LARSON: Oh! Isn't that interesting? And, that's the opinion of Ted Rockwell about Admiral Hyman Rickover. The two of them must have been quite similar, but being SOBs meant that they could bawl out the guy who'd done something wrong and make him straighten up, you know.

STOW: Yes.

LARSON: (laughs) And, they got their job done.

STOW: They got their job done, that's for sure. Let's switch gears here a little bit. You mentioned ceramics a minute ago. Tell me how you got interested in ceramics, because that's really one thing that you're very widely known for nowadays.

LARSON: Well, it's been my passion -- let me say it that way. My grandmother painted china in San Francisco and made ceramics for people -- for their homes. But, actually, I didn't know that.

When I was about fifteen, I found a bank down at our camp in Canandaigua Lake that wouldn't allow grass to grow. And, I studied it and found it was obviously clay. And, about then I'd gotten this book by Hamada and Bernard Leach titled *An Introduction to American Ceramics*.

STOW: All right.

LARSON: They really put it on the map. They said, "Look, this Victorian china is for the birds. We need to go back to the good earth and make things that are representative of the good earth." And, I took that to heart -- boy, that sounded just like me. And so, I started with that clay from that bank, making little coil pots. My passion only increased, and when I got a chance, I got a pottery wheel. Actually, it was made for me by a friend. And, all through the war, the wheel stayed in the garage in Oak Ridge. I never did touch it, but as soon as I could, I pulled it out. That was after the war. What I did really before was to take to heart my job of reporting on science.

STOW: Yes.

LARSON: And those papers were precious. Why? Because they reported on what was going on with the calutrons. And so, I automatically picked up the idea, and it really formed in my mind when I went out to Rand to be with my family for a couple of years that I wanted to "report things in clay. And, I started working with the wheel then. I got a degree in using the wheel. But then, I'd throw these lovely pots and I'd try to press plant material or other imagery into the pots. And the curve of the shoulder and the curve of the bottom would destroy the accuracy. I couldn't get anything accurate. So, that's when I thought, "All right, I've got to go to the flat slab." And, I invented the bottles that I made for some years.

STOW: I see.

LARSON: And, gradually I got into tiles and wall plaques, because I wanted to be able to say things in the clay. I eventually worked out the image from the surface of the marble or whatever the material was. That's bas relief [carving material from or adding material to a smooth surface].

STOW: Okay.

LARSON: There's sunk relief. Walter's Art Gallery is an authority on that. The Egyptians started [sunk relief] where the image is on the surface, but the background is carved away.

STOW: All right.

LARSON: So, that's sunk relief. Well, when I started my work, I was sinking the imagery into the surface, which I couldn't label. So, I gave it the label "bedding plane." That's what paleontologists say when they find a fossil that appears the same way. I'm making fossil records, right? And, I teach my students by saying, "Now, doggone it, if you put a branch of dogwood on there and roll it in with a rolling pin so it's precisely there, don't you dare add two more flowers

just to make it prettier. You want it to be accurate." Because somebody a thousand years from now could pick the shards out of the rubble when the building fell down, put them together, and say, "Oh, this is what dogwood looked like" in that year. We put the year on, too.

STOW: Well, I can relate to that. I'm a geologist, you see.

LARSON: Oh, really? Well, you know what I'm talking about.

STOW: So, when you say bedding plane, I understand what you mean.

LARSON: Oh, how nice. I haven't had the courage ever to go to the Smithsonian Institution to get that [label] authorized, but I use it a lot, and all the potters like it.

STOW: Did your husband Clarence helped contribute to your pottery and ceramics activities?

LARSON: He helped. I think he gave me more confidence than I might have had otherwise ...

STOW: Yes.

LARSON: ... because he liked what I was doing. And, he, being a chemist, said, "Oh, well, we've got to get you these wonderful colors from ancient China." And, that completed my palette. He did a wonderful job on that. And so, I had a palette like nobody I ever knew in ceramics. I mean, I had all the colors. Reds and purples and oranges and yellows - there's a book out saying you can't get yellow in reduction -- and that's true, of course. I had to fire in reduction, which meant we got me a big gas kiln. And, it's now moved over to the pottery class where I teach now. But, we haven't hooked it up, because you've got to watch those things -- you know, it could be dangerous.

STOW: It's gas-fired, I guess.

LARSON: Gas-fired. But, then when I get up to where the glaze is starting to melt, I shut off the blowers. I close the damper at the top and just let gas pour in and it wipes out all the oxygen. If there's no oxygen in the chamber, I get the reds. And if it's celadon, I get greens instead of the brown of iron. And, I get the most lovely flushes and blushes and pink tips to spring leaves and pink stems on vines and whatever. I never know. The fire speaks, and that's fascinating. Then, you get into the theory of Gaia -- that earth is our largest living organism. And you say, "All right, the fire has the last word." You know, this is perhaps the beginning of life. I mean, it's a fascinating. My last mural, before I moved my studio, was done for NIH [the National Institutes of Health], and it's called, "Ten Molecules that Matter to Medicine." So, you see, I'm reporting on science, but it's in a medium that'll last a thousand years.

STOW: True.

LARSON: And, I've gotten into this terrible library archive situation. Our archives are going to last twenty to fifty years -- end of topic.

STOW: Yes. I want to ask you whether you think we're doing enough to preserve the archives of the Manhattan Project.

LARSON: Well, this is why I want to know what happened to those files I stored in the A Building?

STOW: I will try to find that out for you. You've done a lot of things in ceramics, and you mentioned what you've recently done for NIH.

LARSON: Yes.

STOW: As you look back at the pieces of art that you've done that are ceramic based, what would you be most proud of, or is that a question that you can really answer?

LARSON: Well, I think my big murals that report on science ...

STOW: Yes.

LARSON: I think [I am most proud of them]... bar none. Now, I have small plaques that people have, in which I try to say one thing, like "Here's the chlorophyll molecule." And, I've gotten away from cutting a grid in these things. I don't like the grid. You know, I have this story. Picasso did "Guernica," and that was okay, but he kept going. I have a book that shows two or three murals he made.

STOW: Yes.

LARSON: Well, he lost all of his wit. Those murals are just boring. And, I think when he got to this tile stuff, what he started with were porcelain tiles that had just been bisque fired, and then he'd paint on them. But, here was this darned grid, just right in the middle of everything, he was trying to say. And so, I refused finally to cut a grid. If I had made a picture in clay, I'd cut it with my needle. I would cut it down for tree shadows. You know, here's the trunk and the branches go out on each side. I'd try to make it artistic.

STOW: Yes.

LARSON: Or a river would be going through it. So, I added secondary imagery, really, by the light. You have to cut clay into smallish units or it'll crack and warp.

STOW: Okay. But, you've always, since those early times, stayed with the flat surface. Is that right?

LARSON: Yes.

STOW: You've never gone back to a curved surface?

LARSON: No. I can throw perfectly well. And, I still have some examples of some of my better pieces, but I have no incentive to do it.

STOW: What if somebody wanted to have a piece of your ceramic art? Is it available for sale? Just how would somebody go about getting some?

LARSON: Well, you can ask me. I have started making ceramic art at Free State Pottery. They do it using electricity -- I don't have a gas kiln, anymore.

STOW: Yes.

LARSON: I'm using their commercial glazes, and I have two former students who are still adamantly sticking with me. And, we're all three of us trying to get our palette together. They do have reds -- but we can't get a blush, unless we paint the red on first, and then paint the green over it, and then try to sponge a little and fool with it, so it's going to look like a blush. I have two pots, for instance, that have come out of that color scheme. But, as you can see, I don't like the clays, and I've just finally gone back to my old standard clays, because the other clays aren't always flat. If they warp a little, that's just the clay's fault.

STOW: (laughs)

LARSON: Of course, in ceramics, people have used up an awful lot of earth-making clay for making human products. And, sometimes, just as the Albany clay slip has vanished, there's no more of it.

STOW: Is that right?

LARSON: Yes.

STOW: My goodness.

LARSON: And so, I fear for some of our stoneware clays. I think the people who provide the material change [their sources] without telling us. They may change to a new mountain.

STOW: (laughs) Shame on them. Let's talk a little bit about the Oak Ridge Art Center ...

LARSON: All right.

STOW: ... and your involvement in getting that off the ground and started, because, as I

understand it, the mural at the Art Center is a piece of your art, is it not?

LARSON: That's right. Of course, I had lots of help from Jeannie Cole, whom I stayed with. Barbara Wagoner, my student at the time, came down with me. We drove down from Washington, so we could carry lots of tiles. But, actually, when I went back to Oak Ridge, as Clarence's wife, I really wanted to take up my ceramics again. And, there was no place to do it. The Art's Club, I guess they called it, was meeting in an old grocery store on West Outer Drive. And, that was no fun. You could talk there, but [not do much else]. Well, anyway, I realized that they had to have their own center.

STOW: Okay.

LARSON: And, being Clarence's wife, I talked it over with him. Bless his heart, he said, "Well, why don't you see if the city will give you the land for it?" And then, I figured out, we'd just built our house, and we knew the contractor. He was a good man. I could talk to him and ask him if he would do it for cost. So, that's what I did. I went to Mayor Al Bissell and the city very nicely gave me some land right next to the Recording for the Blind. It had just been built, and the city had given [Marge Weinberg and her friends] that land. So, it was sort of standard practice by then. And, once I had the land, the contractor said that he'd do it for cost. So, we figured out how much it would be, and I got someone to help with finding an architect. The man we hired designed the Art Center's butterfly roof, which I thought was smart. It gave it a little distinction even though it was a very simple cement block job. And then, I wrote a pamphlet, which was widely disseminated. It told the public how much the building would cost and asked people who were interested to please donate a suggested \$100 a family. And, by golly, we got the money. We didn't have to go to the government for financial support.

STOW: It wasn't a lot of money either, by today's standards. What was it, \$15,000 or \$20,000?

LARSON: No, I know. Well, no, I think it was more than \$15,000. I was going to say, something like \$35,000, or \$36, 000.

STOW: All right, but still...

LARSON: Yes, but still... it wasn't all that much.

STOW: And, what year was it?

LARSON: Oh, we left Oak Ridge to go to Washington in '69, so it was maybe in 1965.

STOW: And, you've got another talent that you have exercised on occasion as a writer.

LARSON: Writing --that's still [a passion of mine].

STOW: Yes, I mean, you started out with that back in the '40s

LARSON: I wrote theater reviews for *The Oak Ridger* for a while, but I wasn't very good at that. I was too critical -- I know, I know. So, I didn't do that too long, but I did write once in a while. And, of course, I was helping the scientists write their papers. So, that solved my yearning for a while. But, I've now started actually [writing] some articles on Oak Ridge. I think I'll eventually end up trying to make a book. But, it's going to be mostly on ceramics.

STOW: Oh? Where are the articles being published?

LARSON: In the *Cosmos* journal.

STOW: *Cosmos*?

LARSON: I don't know if you know that.

STOW: I've heard of it. Is that related to the Cosmos Club?

LARSON: Yes, that is [a publication of] the Cosmos Club. I'm a member there now. But, my first article for the [journal was] "It's Time for Durable Records."

STOW: Okay.

LARSON: Do you see the connection? Because records are important, we've got to make them durable. And, that's where clay comes in.

STOW: Okay.

LARSON: And, of course, that goes in all directions. I want to write an article about -- oh, poor Iraq. That is the cradle of civilization. In one royal archive, underneath the sands -- Iraq doesn't have mountains -- are 2,800 cuneiform clay tablets that were only sun-dried, never fired. And, they had dug shelves into the earth, in the various chambers, to store the tablets. And, when they ran out of room, they put them in big jars on the floor.

STOW: Yes.

LARSON: I have a book on it, and it's fascinating. And, they had a flood one time -- in the 16th century or so -- and the cuneiform clay tablets in the jars swelled up. So, you couldn't pull them out. And, in this book, it gives you precise instructions on how to break the jar and get these tablets tenderly out. If you dry them slowly --without using sunshine -- then they'll shrink back till you can read them. And, of course, they finally figured out how to read the cuneiform. It's a fascinating account of the first big city in civilization.

STOW: Interesting you should bring that up -- especially today, with what's going on over in that part of the world.

LARSON: I don't know, except I heard somebody say that the war is on. [The U.S. invaded Iraq in March 2003 to search for weapons of mass destruction and topple the Iraqi dictator, Saddam Hussein.]

STOW: It is on.

LARSON: Have they dropped something on Baghdad?

STOW: Not very much. They're sparing Baghdad, really, because they think that Saddam may have been ...

LARSON: I'll keep my fingers crossed.

STOW: ... at least -- damaged, if you will. So, there doesn't appear, right now, to be the need to go in and bomb Baghdad ...

STOW: No interview would be complete without some reference to your father.

LARSON: Yes. What a fascinating man.

STOW: Stafford Warren. Tell us a little bit about your remembrances of him, including his contributions to the Manhattan Project and to everything that followed. They are pretty well documented, and you've written some of that yourself.

LARSON: Yes.

STOW: Tell us what he was like as a father and as a person and a man.

LARSON: Oh, he was wonderful. I adored him, you know. He was a distant hero sort of, but, here he was, someone who grew up during the Depression. He had his family -- three kids -- and he didn't want to go to church on Sundays. He was too independent for that (laughs). And, what did he do with the weekends? He was at the moment making the department for the hospital, and that meant they went to a school that had closed, a private kids' school. And, he took all the desks and the chairs back over to his department. So, he decided, and Mother agreed, they went down to Canandaigua Lake, and they found fifteen acres of unimproved woods, with a fifty-foot cliff down to the water. That meant that it was pretty unappetizing for most people ...

STOW: Yes.

LARSON: ... But, it didn't daunt him. And, we bought it very cheaply. And the first year, we went down there and saw an old boathouse, half in the water, and we took our sleeping bags and

we slept in the boathouse. And, he put a little potbellied stove in there in case we got cold. And, I remember one night, my brother had an earache, and they heated the stove lids and put them against his ear, poor lamb ...

STOW: (laughs)

LARSON: But for our drinking water, he used a gasoline pump to pump the pail down, twenty feet out in the water, and pull it up the bank. The lake water was pure enough to drink – he had tested it.

STOW: Yes.

LARSON: And then, we were in a tent the next summer, but he started building a house with hardwood floors. I can remember he was prying to get those boards to slip into each other. He recruited medical students. They'd come down every weekend. And, they had a ball helping build that house.

STOW: How did he react being asked to be chief medical officer for the Manhattan Project?

LARSON: Well, he reacted well, I thought. I think he wanted to get into the fray and help the country and do his part. I can remember for six weeks before he left, he was reading pulp cowboy magazines, to get his dander up, sort of.

STOW: Well, he continued to contribute, because his trip to Hiroshima that you've written up so nicely from his journals tells us a lot about him.

LARSON: That was fascinating. And, did it say that Admiral Toshiko and his aide Motomushi surrendered their swords to him?

STOW: Yes.

LARSON: I thought that was the case. I still have one of those swords.

STOW: Oh, you do? The other one was returned, wasn't it?

LARSON: The other was. He and Mother went back after the war and gave it back to the Admiral's family.

STOW: But, you've still got the other one?

LARSON: Yes. Apparently, he couldn't find out how to return that.

STOW: I'll be darned.

LARSON: And, it's a small sword too.

STOW: Yes.

LARSON: But, gosh, it's there in its scabbard.

STOW: Interesting. Let me ask you to look back over your entire career. Is there any one person there that has really ... and we've got to take Clarence Larson out of the picture and take your dad out of the picture ...

LARSON: I see. (laughs)

STOW: Other than that, is there any one person that's really affected you, influenced you, in a professional manner?

LARSON: I think really, through books, is the main thing.

STOW: All right.

LARSON: I admired Bernard Leach so that I really studied everything he wrote.

STOW: That was the early book you mentioned a while ago.

LARSON: An American who wrote on the future of ceramics, really. And then he wrote other books. And, there are several authors that I just adore, you know. And, Hamada in Japan. I hero-worshipped those people. I don't remember any one ceramic teacher. My formal education in ceramics was very minimal. And, for writing, I just had to do scientific writing and did it.

STOW: Kind of learned it on your own, then?

LARSON: Yes.

STOW: Okay. And, what are you doing now? You mentioned that you're in Bethesda.

LARSON: Yes. I moved my studio to this new pottery place in Kensington -- it's about fifteen minutes away from where I live now. I sold my house after Clarence died and moved to a retirement center. But, I'm getting used to the new palette, and I teach twice a week. And then, my good old friends who were former students are still coming, and I try to come when they need me.

STOW: Okay.

LARSON: If we do projects, I usually have their help.

STOW: Anything that we've left out, that you feel you want to get in here?

LARSON: I was sure there was going to be something, but... (laughs) I think you're very good ...

STOW: We've covered a lot.

LARSON: Yes, indeed. We covered about everything I can think of now. I'll probably think of something later.

STOW: Well, we'll think of something as soon as the tape runs out, probably.

LARSON: I imagine we will. I do know that I personally, and my family, have had a fascinating lifetime. And, I think our whole country has reached pinnacles unimaginable, with the way we handled the Depression, the way we handled the war, the way we've done this and that and the other. Now, I just hope we don't mess it up. And, I'm very concerned that we keep our eye on peace as soon as we can. And, I also feel, in science, that we want to be sure we don't goof off in a way [that is irresponsible] I just read Michael Crichton's book *Prey*, and it scared me to death.

STOW: We live in dangerous times, for sure.

LARSON: I'm afraid we do.

STOW: Very much so. Well, that's a good way to wind up, so, thank you very much.

LARSON: Very good.

STOW: It's been a great hour.

LARSON: Thank you. I enjoyed it. (laughs)

-----**END OF INTERVIEW**-----