

H. Tracy Hall oral history, Tape 7,8

Tracy Halls are visiting with us in White Plains, New York. Today is August 8, 1977, and I, Sherlene Bartholemeu, am continuing with a list of questions to Dad, H. Tracy Hall. Continue telling things about how you enlisted during World War II.

Tracy: Well, I knew it was in the day that they were taking people into the Navy. We lived in Stadium Village. It was about March of 1944, and I knew that I would be drafted shortly, so I went up to Fort Douglas, where they were inducting people, it was kind of miserable, the way they herd you around like sheep, in the armed services. And I did get enlisted in the Navy. I think I already told ... maybe I've omitted this part. I tried to get a commision, which I was eligible for, but I could not pass the physical examination. You could automatically be an Ensign if you had a college degree, if you could pass the physical. But, the physical exam for an enlisted man was not as tough as the physical exam for officers. I had tried for a long time to pass the physical examination there in Salt Lake City, but failing that, I went up and got in just as an enlisted man in the Navy. Seaman first class.

Shirlene: How did you fail?

Tracy: My blood pressure was too high. It was 140 over 80, I think, and in those days they believed it should be your age plus 100, and since I was only about 24 or 25, they didn't want to see a blood-pressure reading over 125 and mine was 140 over 80. So, I became seamon first class and a short while after that I had to get on a troop train and head for Waukeegan, Illinois, area. This was my first trip out of the state of Utah. No, I had been to Idaho as a young kid, I guess. Anyway, it was the first time I had been any distance from home. It was a lonely feeling to be leaving home and be on a troop train full of guys who smoked and swore and were telling stories, and were just not your kind of people. But it was somewhat of an adventure to be in other places. The final destination was called Navy Boot Camp for six weeks at Great Lakes, Illinois. They had a huge barracks area there for a training center.

We were put in these barracks and I had to sleep on the third high bunk. I was up there so high I was scaired I was going to fall off overnight. And the guy in the bunk below me puffed his pipe all night

long. It was miserable. Then, the next day they stripped us of everything. They made us put everything we had. Any pills, medicines, everything in a box and shipped at our expense back to our wives and family, or whatever. In other words, they stripped us right down to the way we were when we were born. And then they completely clothed us in the new Navy clothing and started us out by putting on their heavy winter underwear and everything else and then marching us for a couple of miles. It was really awfully hot, but I must say, I did feel, as we marched along, some feeling of pride at being called to serve my country, which I felt very strongly about, although no one wants to get sent off to war, I did march along with that definite feeling. Pride in my heart for my country and willingness to serve it.

I was in training there for six weeks. It was rather miserable training. Absolute authority from a military organization is always somewhat hard to take because sometimes it's unreasonable, but you have to do it anyway. When I went through the initial medical screening, and by the way, it was cold weather there and we stood around in those unheated buildings with cold floors, just shivering with goose pimples all over for hours in long lines waiting for doctors to inspect you and psychologists, to get your shots and what-not. They would shoot you in the right arm and left arm at the same time - a whole array of shots. You know, I remember just when it came my turn to stand there and get shot in both arms. I watched them jab a needle into one of the arms of the guy ahead of me and the needle went in his arm, through his flesh, and out his arm, and as they squeezed it to inject the stuff in his arm, it just dripped right on the floor.

During that initial screening, a psychologist talked to me, looked at my record and he said, "You got a master's degree in chemistry?" I said, "Yes!" and he said, "What the blank you doing in the Navy here as an enlisted man?" He said you could either be staying out by aiding the war effort somewhere as a chemist, or at least you ought to have a commission. "How come you didn't apply for a commission?" So I told him my story of flunking the physical exam. So he said, "Well, we'll fix it up so you will have opportunity to apply for a commission while you are here." Well, I had managed to get in the radar electronics school while I was an enlisted man and that's what I wanted. I had mixed feelings about applying to be an officer, because most officers were being sent into LST boats - landing - I forget the designation. It runs through my mind it was

LST boats, anyway, they were the boats that landed on the beaches in the Pacific Ocean in the war against the Japanese. I didn't know that I wanted to be in that end of things. But, I applied, filled out all the forms, and went up for the physical exam for officers and flunked it right off again for the same reasons.

The young physician who gave the exam told me to come back as often as I liked and repeat that examination, and if there was ever a day when my blood pressure would meet the requirements of the Navy, then he would sign me up. So, I went back a couple of times a week for quite awhile and it was always the same story. I didn't pass. So finally this young medical officer took all my papers and put them in a big envelope and said, "I'm sending you up to the chief medical authority on the base with these papers." So I went up to the chief medical man with the papers and told him why I was there. He looked at my records, saw that I had a master's degree in chemistry. He said a few swear words -- the blankety blank Navy doesn't know what they're doing. Crossed out my high blood pressure reading and wrote in a normal blood pressure reading and then within a few days I was wearing a different uniform and now was an Ensign in the United States Navy.

I had to wait there to be assigned to a billet in the Navy, and I had the opportunity to have Ida Rose leave Shirlene, who was our only child at that time, with her mother and come and visit me for a week. When you are an officer you could live off base, but you were the only one who received any payment and no payments for your wife, or transportation, but Ida Rose came back and it was really a great reunion to see your wife at that time. Now, I may be a little bit mixed up in the sequence of events here, I'm not quite sure. We did get to go home after our six weeks boot training, for a few days. That was the idea in those years. You could go home. I didn't get the one week leave or whatever it was, two week leave in full because our train was held up on the ... there were floods on the big rivers, the Mississippi and Missouri, I forget which one. Our train was held up for 48 hours, so we just stood there in the hot sweltering heat and waited for them to be able to go across the river. So I lost a couple of days. Later on I learned that those who had lost ... many of the people, troops, Navy, what-not, had gone to see a local navy officer somewhere and told him about the loss of two days, and got an additional couple of days leave, but I wasn't smart enough to have done that.

Well, at one point Ida Rose came back for a week. We rented a room in a home there in Waukegan or nearby. Then she had to go back home. I was sent to a new boot camp. An officer's boot camp at upper New York State on ... was it Lake George? The camp was called Camp McDonald. I have forgotten what lake that is on. You could look across the lake into Vermont state. It's a good thing you are getting this recorded, Shirlene. I am forgetting a lot of things in my past. But that was, I think, a month or two at Camp McDonald. This was near Plattsburg, New York. I was there during the winter months. Cold! Oh, it was cold! The lakes would freeze over. Bitter cold in that area.

But after that experience there and having to go through boot camp all over again, so to speak, I was sent to a naval training station near Fort Lauderdale, Florida. Between there and Miami, and that place was called Hollywood, Florida. There was the Hollywood Beach Hotel there that had been taken over completely by the Navy. Ida Rose was able to go with me. I guess I went home after the Camp McDonald experience. Yeah, I'm sure I did. We got on the train and went all the way to Florida. We were being trained there in navigation and other things of that nature to be on these landing boats. To be the skipper on these landing boats. The beaches were there. It was the first time I had seen the Atlantic Ocean. I remember what a thrill it was when I first saw the Atlantic Ocean. Apartments were always rather expensive and very poor quality. I had to live at the base. I could go home weekends. Ida Rose and Shirlene lived in the apartment. But they spent their days on the beach there and Shirlene would run up and down the sand and play in the water and do all kinds of interesting things. Very pleasant swimming in the water there. Sometimes there would be shark scares. There was a Portuguese man-of-war floating about. You had to look out for.

Now, as we got our training there .. I noticed as I was rounding a corner in a building one day, a notice that there was an opening for three officers to go to officers radar school at Bowdin College in Brunswick, Main. There was an examination to be given on a certain date. So I quickly signed up for the examination, took the oral interview, and then took the exam. There were somewhere around thirty or forty men at that examination. Most of them were graduate electrical engineers. But the men who were selected were all chemists. Two chemical engineers and myself as a chemist. Now the reason we were selected was because of the nature of the exam.

It was not an examination in your knowledge of electrical engineering, but rather an examination of your knowledge in mathematics and physical science in general. I think there were physics and the 3 of us did better on that examination than did the electrical engineers.

Well, I might say just a little bit more about life there. It was extremely pleasant at that resort hotel with its nice beaches and what-not. We took all kinds of pictures of our only child then who was Shirlene. She just roamed the beach, sort of freely, and had a good time with all the sailors and everybody else, and actually got to be -- I don't know how old she would have been then, maybe only one and a half years old. But the commandant's daughter took a liking to Shirlene and Shirlene was up with this daughter and the chief Navy man who was in charge of the whole affair and all over the place. She would walk into the secret ... you know lots of secrets that they would teach you about Navy ships and planes and warfare and what-not in general, and she would just go in those -- of course, she was too little to be a spy or anything, but I can remember how amused they were at her going in to those places where these confidential movies and what-not were being shown -- secret Navy stuff.

We left Florida on a train and went to Brunswick, Maine. I think it was in December, maybe it was January or February. Anyway it was winter time. When we arrived at Brunswick, Maine, it was just extreme contrast of warm Hollywood, Florida. The snow was deep, up to the eaves, the temperature was extremely low. It was very difficult to find a place to live. And we lived in a very low quality apartment. In which we couldn't do our own cooking. And so it was difficult for us to eat. We hated to eat out. There was only one very poor place to eat out in town that we could possibly afford. And my wife, Ida Rose, still remembers how much she hated the clam chowder soup that we used to eat very often there because it was cheap.

The training there was very good. It was the kind of thing that I had always wanted. I had always been interested in electronics and had studied some at the university in the area and here I was studying the very latest in electronics all at Navy expense. I believe that school lasted for four months and we became acquainted with some of the other officers and their wives, and, a Jack and Dorothy Wydick, who had a son named Charles Michael, a young son about the

age of our Shirlene. Dorothy and Ida Rose went to Boston, because we were going to be transferred to MIT radar school, which was held in what was called the Harbor Building. Dorothy, or Dottie, and Ida Rose went to Boston, the Cambridge area to try to find a place to live. They rented a home in Cambridge, I've forgotten the name of the avenue it was on. Not too far from Harvard University. It was the home of an architect who taught at Harvard who was on leave. The house cost something like \$100.00 a month. We could not afford it as a single family. That's why we went in together. So two families lived in the same house. That is the only way we could have our families with us and afford to be there. By the way, my pay when I was an enlisted man, was \$80.00 a month. Which was not very much money. I was working at the Bureau of Mines and making about \$1800.00 a year, which you see is a lot more than \$80.00 times 12 is \$960.00 a year. It was only half as much to live on.

Shirlene: What was the name of that street, again, that you lived on at Harvard?

Tracy: I've forgotten. I don't know what the name of the street was.

Shirlene: Mom told me once and I went there.

Tracy: Trowbridge. Trowbridge Street. Mom and I have been back and walked by that house on one occasion a number of years ago.

Sherlene: I went to see it, too, when I was in Boston.

Tracy: I forget the address. It's probably on old letters that are still hanging around. But it was rather enjoyable there in Boston. And now we really got into all the modern electronics. Microwaves, wave guides, coaxial cables, cathode ray tubes with their displays of the information. We learned all that technology, which was confidential and secret, navy stuff not generally available to the public. And much of this had been developed right there at MIT. It was called the radiation laboratory. It was all very interesting and very exciting.

By the way, I saw my first radar while I was an officer in training down at Hollywood Beach. Part of the training was to send us to the Bahamas on submarine chasing boats. Now, what the navy had done ... They had condemned all large boats that any wealthy people owned. Any kind of a fishing boat or a yacht or what-not, the navy

had taken them all over. And had made them into really rather crude submarine chasing boats. We had 55 gallon drums filled with dynamite and a depth charge sensing device so that when it reached a certain depth it would shoot it off, and so we practiced with these boats. Rolling these things off the rear of the ship. There were submarine scares in that area, because submarines had been sighted in the vicinity of the Hollywood Beach Hotel on occasion. And so there was the possibility that you could encounter real German submarines -- U Boats on the way to the Bahamas.

But I got sea-sick and so did most others get sea-sick. These smaller craft would just roll and pitch and drive you out of your mind. Being sea-sick is about as sick as you can possibly be. I finally got over that though, and then saw these beautiful blue waters in the Bahamas. Had a brief shore leave. I don't believe we were in the Bahamas more than a few hours. Threw coins into the very blue and beautiful waters while the native boys around would dive and pick up these coins. But, most of us got so sick we couldn't use the navigation that we had been taught. The navigation by the moon and the stars and the sun. I can only remember two guys. One really athletic ... really good kid, I can't remember what his name was, managed not to get sea-sick and he would take care of the navigational chores. But when it came night they would turn on the radar, which I didn't even know existed, and here on the radar we could see our whole stream of ten of these boats following the leader on the way to the Bahamas.

Now they had an experienced chief and maybe a couple of crew members in charge of these boats. But they turned over to us, you know, so we could learn how to be the man who ran the boats. In addition to learning the radar at the MIT radar school ... and by the way, they really poured it on. You had four hours of lecture five days a week, and in the afternoon you had four hours of laboratory. And then every Saturday morning, you had a four hour examination. And this intensive training went on for four and a half months. Now the competition there was fierce. We may have ... the three of us who were not electrical engineers, may have passed that examination ahead of these guys. But these guys knew their electrical engineering. They knew about all the complications of impedance, admittance, inductance, and capacitance. Now I knew these things in a general way, but I did not know them in a mathematical way. And we had to get slide rules that were electronic slide rules, and learn how to calculate this stuff. Which is rather complicated. And I

learned to do it, but not rapidly. The electrical engineers knew how to do it rapidly.

I got out of the school with what I think was a C+ grade. By the way, you got credit at MIT for this. It was the kind of a course that was better than any college course I had ever had in its intensity and the depth you went into it. I felt very good to have gotten a C+ competing against bachelor's and master's degrees and electrical engineers who were at least 99% of the people who were taking this course. My problem was that this course at MIT started off assuming that you already had a bachelor's in electrical engineering and that's what made it so hard to keep up. It was just a matter of not enough time in the day to learn to be an electrical engineer. Learn what an electrical engineer already knew, and in addition take this advanced stuff that was being taught on the presumption that you already had a bachelor's degree in electrical engineering. Somewhere I have a certificate saying I completed that school.

We also went for training for, I think, one month, or one and one half months at a time, to the underwater sound laboratory at Harvard University. This was the place where they developed the sonar equipment. And that was amazing and very interesting stuff. Now after I finished this, I applied for additional training on top of this, which was given at the Honolulu Navy Base, and so I spent, I think, two months -- two and a half months, something like that in Honolulu, Hawaii, learning other kinds of radar. It turned out not to be additional training in the theory, but it was more practical training. We had been learning all the navy radar. Now they wanted to teach us specific radar that applied to aircraft and army radar and other branches. In particular, the aircraft radar, so that we would be qualified to service any kind of radar we might come up against.

Well, while we were in Boston, Ida Rose was pregnant with Tracy, Jr., and she left two weeks or a month before I left. I had to stay to complete the training. I came home the morning that Tracy, Jr., was born, but something like ... I think Tracy, Jr., was born early in the morning, maybe four to six AM, and I got home maybe at ten or twelve noon. So I just missed the birth. Well, I had some leave there and then went on to Honolulu. Now, when I was completed with that training ...

Shirlene: You are supposed to tell of some of your emotions at having a son born. (laughter) I'm not jealous!

Tracy: Finally getting a son now. Let's see. I hope I'm getting this sequence correct. I guess I got leave after I was through with Well, I wanted to mention that the war ended while I was at Boston.

Shirlene: Oh, somewhere I heard that it ended while you were out on a boat. You were on your way to another war or something.

Tracy: Well, let me think. Now, the Germans had to surrender at one point. Now where did that occur? Oh, there is one other interesting thing I should mention. I heard of the atomic bomb going off at radar school, Harbor Building. And that's the first I knew of the atomic bomb. But, as I heard of that, I immediately came to my senses. I had just not put two and two together, as scientists could have done who had any incling of this. Because I remembered them talking in my modern physics classes after I heard that that bomb went off. Oh, yeah, they had conducted these experiments on neutrons and what-not. I should have know that there was something like this in the wind. And another thing immediately came to my mind. When you were working in science during the war, they figured they needed scientists, and most scientists ... most of my friends, for instance, the guys I went to work with at General Electric Company. They hadn't been in the war. They had been employed as scientists with their bachelor's degrees and master's degrees. As a matter of fact, many of them went to school and got their degrees while they were working for a company during the war. They weren't in the army or navy with as much training as I was.

Now, I was working for the Bureau of Mines in Salt Lake City, and they had given me deferments for awhile, but apparently felt that there work wasn't critical enough to the national defense that I should be deferred any longer. But, I had received job offers. The big companies like Westinghouse and General Electric were around trying to get scientists into things that were closely associated with defense. And Westinghouse had approached me one time, and wanted me to come east to Pittsburgh, Pennsylvania, or somewhere in that area, and were willing to pay all my expenses to get me there and talk to me. And I said, "Well, tell me what the job's about right here, so I know whether or not I have any interest." And they never would. It was a very top-secret type of thing that you would be involved with. And, of course, that would have been working in this

area with the atom bomb. I just wasn't smart enough to have recognized that. I could have been out of the war and perhaps been further along and gone to graduate school like

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On first hearing that this atom bomb had been dropped, and of its destructive power, I immediately, in my mind, had an understanding of what that was all about. I've often wondered how come I was so naive as to not have recognized that before, and perhaps not taken that job at Westinghouse. And other opportunities that I am certain were available if I had had the right contacts, or if people, teachers, and others, had been on their toes and been directing me. Perhaps they were. I think there people who encouraged me to take that job at Westinghouse, but I wanted to stay there in Zion. I didn't have any desire to trapse off to Pennsylvania.

Well, somewhere along the line, the war with the Germans ended, and I'm wondering if that didn't happen when we were in Brunswick, Maine. I'm pretty sure that ... I remember Roosevelt died and Truman came into power as President while we were at Brunswick, Maine. And I guess it was Truman who decided to drop the bomb. Anyway, I've lost track of where the war with Germany ended [May 8, 1945], but with the Japanese, that ended while I was there in the Boston area. [Atomic bombs were dropped on Japan on August 6 and August 9, 1945. Formal papers were signed ending the war, September 2, 1945.]

Well, Mom was home so she didn't get to see this part, but I went out on the streets with everybody else and the streets of Boston, Cambridge, everywhere, just everyone, there were no one in their houses. Everybody was outside. Whistles and sirens and lights, fireworks and firecrackers, and just one big mass demonstration of, you know, gratitude, I guess. The war was finally over, and, you know, we were blacked out. When it comes to lights at night, they were afraid bombers at might reach the United States, and the lights were out at night. And there were other security measures; but, now the lights were back on an everybody was really whooping it up. That went on all night long. I didn't stay up all night, but I probably staid up until past midnight on that thing before I went to bed. So, I saw that experience that went on in all big cities. I heard the same

thing. Just everybody out in the streets whooping it up. The war was over!

I, of course, was extremely grateful that the war was over along with everybody else. To know that any big terrible war had finally ended would make your heart full of gratitude and, looking forward to being out of it and being back to normal life, back to school and so on.

Well, after the additional training at Honolulu Naval Base, I was assigned to my first ship. It was an electronics ship, a communications ship. In the old days of the navy I understand that the captain of the fleet, or the commander of the fleet was on the battleship. But here at least at the end of World War II, the bigwigs, the big commanding top people were called AGC ships. The AGC ship ... I was on AGC 14. It had all the radar gear, all the communications. It only had light defense -- just small guns and it was intended that this ship be protected by the larger ships in the fleet and the fleet's aircraft. This was the ship that was loaded from stem to stern with all of the detection equipment and all of the communications equipment. Now this ship actually staid in the San Francisco harbor for ... oh, I don't know how long -- a couple of months, something like that, and I was the chief radar officer aboard that ship. I had a couple of enlisted men who worked for me to keep the radar gear in shape.

Now this ship was scheduled to go to the Far East. Now the war was over they were de-enlisting people, so to speak. You could get out of the navy and there was a point system for getting out. If you had a lot of kids, that was a lot of points to get you out. The years of service you had -- this, that and the other, all counted towards how soon you would get out. I was close enough to having enough points to get out, but they decided to release me from the AGC because if I had gone to the Orient I could have been there maybe another six months or so, way past my due time to get out. Now the navy didn't have to let you out if they felt they needed you, you couldn't.

I was in pretty good graces with the captain on the AGC. The full brass, you know, the commander of the fleet wasn't on that ship. A lesser man commander, as I remember it, was in charge of the ship because it was just sitting there in the harbor at that point. The war was over. Once the war was over the navy fell apart, so to

speaking. The stiff firm discipline and ship-shape sort of things just went by the board. I know shore leave was frequent and the guys would go ashore and they would bring girls back and take them down in all the secret radar areas, and all the other navy secrets were laid open because nobody seemed to care. The war was over and discipline and ... oh, morals and everything else, which had already pretty much gone to pot all in the world, just all the more so.

I would maintain the navy discipline, myself. I would salute the commander when I was supposed to. I don't know. I just felt there was no reason to start acting like a slob, and the commander seemed to appreciate that. I was one of the ... well, I really never saw anybody else take care of those things the way they are supposed to on the ship. I would wear my navy hat when I was supposed to, and wear the clothing I was supposed to, and I think the commander noticed that and liked that. When I had an opportunity to go on leave, he let me go a little bit early, so I could catch a train.

That was an experience! I waited ... you couldn't get a reservation on a train in those days, anyway, and with the war over and troops being transported home, it was almost impossible to get on a train. I went, purchased a ticket at the nearest place. I think it was ... I can't think of the name of the place. It was a place where Sperry Mills had headquarters. I worked for Sperry Mills in Ogden, and we were sort of a satellite of this place near San Francisco on the Oakland side, I believe, where they had grain facilities. Where grain could be brought from ships or loaded on ships. Anyway, I waited while train after train went by. I tell you, trains would go by four or five every hour. Always filled. No room, no room! And some of the trains that came by were troop trains where there really was room, but the conductors wouldn't let me aboard.

Well, finally as I saw this, a lot of these really weren't regular trains and I had a ticket, but you were supposed to have some kind of troop train ticket to be on these trains, and they weren't completely filled .. I finally just sort of, you know, told the guy, "Man, this is the hundredth train that has gone by, I've been waiting all night. I've got to get on this train." So he let me get on and I walked through the train and there were lots of ... it was army, there was no navy on there, but there were army officers and lots of empty bunks ... well, I was too non-pushy in those days, so I went to a baggage area and I just flopped out on top of the baggage and slept what I could till the next morning. Then one of the army guys came by and said, "Did you

sleep up here all night?" And I said, Yes." He said, "Well, we could have given you a good bed back there in the officers section of the train." Anyway, it was good to get home again.

After leaving that ship I was assigned to the Oakland Navy Depot as officer in charge of electron tube storage. I never believed that the world could manufacture as many electron tubes as they had stored there. There was really not much to do, and that warehouse was so mixed up! They had given me the assignment to straighten out all the tubes and get everything organized. It had got all mixed up. I don't know whether that had happened during the rush of the war or what-not, but they just had millions and millions of dollars worth of tubes there, and I was just appalled at the way the regular navy help and the civilian help that they had there treated things. The war was over, they were getting their pay. Nobody did anything but sit around and play cards, drink coffee, and tell dirty jokes. They didn't care about those electron tubes. They would take their fork-lift and they would just run into a batch of tubes that maybe cost a couple of hundred thousand dollars and break them all up and nobody gave a darn.

Anyway, there was so much time on my hands, and I knew I was going to go back to school when I got out, that I got out my physical chemistry book and I just studied my physical chemistry book all day long. As much as I could stand. Learned it backwards and forwards. And that time was very well spent to have done that. Well, I finally was released from the navy, I think in April of 1946. I had been in the service just about two years. Maybe one month longer, one month shorter. I was eligible to become a Lieutenant, Junior Grade. You see early in the war you advanced rapidly in rank no matter where you were, and that was proper that that should be so, but I got in the war late, was not out in active areas of combat, and was advanced very slowly. But the war was over and I didn't care and I never did to to pick up my Lieutenant J.G. grade rank which I was eligible for.

I was mustered out of the service, as I remember it, either at the naval depot in Clearfield. That was the placy. There was a naval depot storage area in Clearfield, Utah, and was mustered out of the service at that point. Now one advantage of being in the war was that you were now eligible for the G.I. Bill of Rights, and that paid something like \$100 a month to you while you were going to school, and without that I never would have been able to continue school.

Now my former teachers at the University of Utah, where I had obtained both my master's and bachelor's degrees, principally Walter D. Bonner and Victor G. Beard, had sent a lot of their students to Purdue University, and they thought that's where I should go, and there was a specific man there in physical chemistry that they thought I ought to go there for and work for. I've forgotten that man's name. I believe it was ... I .. nope, I've forgotten it.

Well, so I made all the arrangements to go to Purdue University and was accepted there as a student. I was told to come out alone and that later on I would be able to bring my wife in about a month. They were building housing for students and their wives. Well, I took that risk and went out. When I got out there and surveyed the situation ... they hadn't even started to build the accommodations that were supposed to be available for teaching assistants and their wives -- I was going there as a teaching assistant -- They hadn't even started to build them yet, and I could not find a thing in town anywhere that we could have possibly afforded. Furthermore, there was no place for you to work as a graduate student. I had a room all to myself for my master's degree research at the University of Utah. They didn't have a place for a student to hang his hat. At Purdue in those days all Freshmen had to take chemistry. They had that rule - every entering Freshman had to take chemistry and there were thousands of Freshman students. And so, I recognized that the incoming students were just slave labor. We had to work for a couple of years as a student before they would even let us start on our PhD, and I already had my master's degree and this was disheartening.

I took their various entrance examinations. I did very well on everything, particularly physical chemistry, and that was as a result of studying my Getman and Daniels until I knew it backwards and forwards, but I didn't do too well in organic chemistry. And on that account I had to take their own special Purdue organic chemistry course, which would slow you down some, too. Well, after six weeks of this, I was really getting discouraged. I wanted to get out of there, but, a Dr. Haas, I forget his first name, was chairman of the department and he wasn't going to let any of those graduate teaching assistants go. He had to have them to teach those Freshman classes. There was supposed to be a new chemistry building constructed, but at this time they just had an old chemistry area which was too small for what they needed. Well, Haas threatened to blackmail me if I should leave. He said, "I'll fix it so you can never be a member of

The American Chemical Society, and never get enrolled at any other school," and so on and so forth.

I was kind of desperate and I had been sick with the flu there and, you know, when your family is away, that didn't feel too good. There was no church there and I couldn't locate any other Latter-day Saints in the area.

Shirlene: And Mom was getting very restless!

Tracy: Yea, and so I decided, to heck with them, I'm going home anyway. I called Dr. Bonner meantime to see what I should do, and he called Yale University and he said he could fix it up so that I could go to Yale University and work for Harnad. I considered that some, but I didn't think that that was what I really ought to do. Now there was another .. by the way, the physical chemistry teacher that I was supposed to work for there, didn't ever come back. He had been out working on the Atomic bomb during the war and he didn't come back to Purdue. My teachers at Utah should have determined that that was the fact before sending me out there.

But, there was a new young physical chemistry teacher there who was fresh out of school with no reputation yet, and I talked to him about my problems and he says, "What you ought to do is to go back to school at the University of Utah. A man by the name of Henry Eyring has just gone back there. He is a world famous chemist and if you went back there, you could probably work for him. And if I were you," he says, "I shouldn't say this to you because we need people here at Purdue, but," he says, "there is really no one here who has the reputation that is anywhere near this man," you know. With this other guy not coming back, and he just being a young man just starting there. He says, "there is really nothing for you here at Purdue. I would just go back there."

So, I took that advice. Went back to the University of Utah and became Henry Eyring's first student. At least his first student to graduate under Henry Eyring at the University of Utah. I got my degree there in 1948 at the end of the summer term. I was the 4th PhD to graduate from the University of Utah. They had a medical school and were graduating lots of .. for the time, lots of people in medicine at that August commencement. But I was the only PhD to graduate at that August commencement. And I can still hear the applause and how good that felt. There were so many medicals, it was commonplace, and they had already been doing that and they got

just ordinary applause, but as the only PhD ... this hood was put on me by Henry Eyring, who was dean of the graduate school, and by A. Ray Olpin, who was the president of the University. And I have been very great friends with these two for a long time. Since graduating there. And, also, of Carl Christensen, who was the director of research at the University of Utah for many years. Came about the same time as Eyring.

During the period between the time I was released from the service and waiting for school to start in the Fall, I had worked again at the U.S Bureau of Mines and made a little bit of money during the summer. As a matter of fact they would have taken me back full-time, but I figured that I was better to go on and get my PhD. We had considered quitting .. we had lots of temptations. We were young and poor and hardly enough to make ends meet. In the last quarter of my senior year in chemistry, I was tempted by offers from Sperry Flour Mills. I've forgotten the name of the boss there in the lab there in Ogden, but he wanted me to go on full-time there. With what seemed like a tremendous amount of money and all kinds of opportunity. I said to him, "Yeah, but I just don't want to do these routine analyses all day, I want to do some research." "Oh, you can have all kinds of opportunity to do that on the side when there is free time." .. and what not, which really wasn't the case.

But, Ida Rose and I went to talk to Dr. Bonner about this temptation. I don't remember the words he said, but just instantly we knew we shouldn't do that thing, and I'm certainly glad he saved us from that. Because with my powerful interest in science, I would have never ... I wouldn't have belonged to the club of the PhD's and I would never have been able to do what I have been able to do.

Well, after receiving that degree, I started looking for a job. That's not the way you ought to do it, you ought to be looking long before you get your degree. We sent out postcards to various big companies, including the General Electric Company that I always wanted to work for, asking if they had any employment opportunities. Well, the General Electric people said they didn't have any. But DuPont, Eastman, and some other companies answered the post-cards. Sent me forms to fill out. All we were requesting on the post cards was, "Send us some application forms." We wanted to save money on postage. We didn't have much money. But I learned later on at General Electric Company that they just assumed that I was a no-good hillbilly because I had sent in this post card and was

advised at the time I quit General Electric, they were talking to Glen Giddings, who was the personnel officer. He wanted to give me this advice, "If you ever apply for a job again. Never send in a post card. You know, that's just not done." And, of course, he was correct, but, you know, if you're a poor boy from the country, you don't know all the rules of etiquette, and, after all, other companies had answered my post card.

Well, I went out on a recruiting trip, these companies all offering to pay my way. And I decided to call the General Electric Company or write to them, I've forgotten which, and tell them that I was coming on this trip, and couldn't I, just please, stop off in Schenectady since it was on the way, and talk to them. Well, they reluctantly agreed to let me do that, but didn't offer me any funds for paying part of the trip. The other companies, we pro-rated the cost of that trip among all those companies.

Most of the companies were surprised to learn that I had already graduated. Because, as I say, I was kind of dumb. I should have been out looking for a job before I had actually arrived at the graduation point. But I waited until I had my degree in hand and then started to look for a job. There were job opportunities right there at the Bureau of Mines. I could have gone to work at the Bureau of Mines. I went on this trip and they seemed to like me quite well at Eastman Kodak Company. When I arrived at Boundbrook, New Jersey, I went to see an old teacher of mine .. a former teacher of mine ... Wangsgard -- Alton Wangsgard, who had taught math to me in the ninth grade at Lewis Junior High School in Ogden. He had a PhD at that time, but couldn't get a job with his PhD in physics so he took a schoolteaching job. Of course, he knew his stuff in mathematics, and most of the gradeschool teachers that I had met prior to that time ... I knew more about mathematics than they knew. So, I always liked him, because he had all this firm solid knowledge and could teach us the real genuine stuff first hand. He worked for that time at Union Carbide, as I remember, and he had me interview there for a job. I remember I wore a hat in those days. To look like a proper young man, you wore a hat. And I left my hat at Wangsgards and they came chasing me and just caught me at the train before I took off. To give me my hat back.

In those days, I also stopped off in that same general area because I knew of the famous Harvey Fletcher, director of physical research at the Bell Telephone Laboratories, and I went to Sunday School

class there, I think, at Shorthills, New Jersey area where he was teacher of the Gospel Doctrine class, to make sure I could see this great man. I don't know if I had nerve enough to go up and shake his hand, or not, but at least, you know, I got to see him.

Shirlene: Later you got to be very good friends with him, didn't you?

Tracy: Yes, I did. At DuPont, I interviewed in Wilmington, and I interviewed in three other locations. They sent me down south to a place where they made paint and a place where they made textile stuff. There were three or four locations DuPont sent me to. Now, I was very well liked. They let it be known at every place. They really liked me and wanted to hire me. And later on were disappointed when I turned down their job offer. I could have worked at any of those places. They all wanted me.

Well, when I was back home in Salt Lake City, and we lived at this time in our lives ... I guess we were living in Stadium Village. I've forgotten the address. Anyway, it was housing that had been moved in. Housing that they had kept the Japanese in out in the desert areas of Utah in this temporary housing during the war, when they thought the Japanese might turn traitor. They moved that housing in to near the university and young couples got to live in that at a reasonable rent. Which made life very enjoyable, and some of the happiest times of our life were there. We seemed to get along very well on our hundred dollars a month, plus a little extra that I would earn here and there ... and then with all these other young people.

Shirlene: I can remember you making us toys by hand when we were little kids. You made me a little paper umbrella that went up and down and you made me a little rocking ...

Tracy: I made little chairs, too. Four little chairs for all the kids. And, I guess, a little rocking cradle. Yeah, that's right.

Well, I got offers from everyone. All at about the same amount of money, somewhere around \$5900.00 a year. But no offer from General Electric. I kept putting these other companies off waiting for an offer from General Electric Company. And probably if I hadn't got an offer from General Electric Company, I may have gone to work at the Bureau of Mines in Salt Lake City. I'm glad that didn't happen that way. Well, I called or wrote letters to this Glen Giddings who

was in charge of personnel at General Electric. Well, they had to keep waiting and keep waiting. Giddings didn't have results yet.

I need to tell a little other background there. The man who spent the most time with me when I interviewed at General Electric was a fairly young man, probably only four or five years older than I, by the name of William Cass. Bill Cass. But he was very friendly. He was friendly to everybody. He was just a really nice guy. A nice type of person. He was very friendly to me and told me ... frankly, he liked me and he wished that they would hire me. He says, "As a matter of fact, I want to tell you," he says. "They don't want to hire you." He says, "The chairman of chemistry, a guy by the name of Abraham Lincoln Marshall, and others who had looked at me didn't want to hire me." He says, "Perhaps, one of the reasons they didn't want to was that they didn't like Henry Eyring too well. Now I had good recommendations from Henry Eyring, and besides that, they had hired one of Henry Eyring's students one time, and he just turned out to be no good to them. They figured Henry was too theoretical and that they needed guys with more practical training. It was obvious to Cass that I had the practical training. I had gone through the hoops with all of Henry Eyring's theoretical stuff, but I had a practical part to my thesis and I was a practical man. He says that if I really wanted to be hired, he could talk them into hiring me. So, he wanted to know what my wishes were under the circumstances he told me about. I told him I wanted to be hired.

Well, I waited and waited and waited and finally, a phone call came to me when I was in the library at the University of Utah studying, and this phone call was from Glen Giddings, and he made me an offer of \$6200.00 a year, which was actually more than others had offered me. Well, I talked to my friends Carl Christensen and Henry Eyring, I had an offer from the U.S. Bureau of Mines, which was quite a bit less than that. I think probably \$2000.00 less, only around \$4200.00, or something. I had always preferred to work in Utah, and was somewhat torn between my desires to work for the General Electric Company, which was an offshoot of Edison, one of my heroes, and staying there in Zion, where I had an opportunity to work for the Bureau of Mines. Eyring's and Carl Christensen's advice was to take the job and go east.

So, we did. We had an old car. An old Plymouth that had been in a wreck and leaned to one side, the inside of the car ...

End of tape, side 8.