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IN PARTNERSHIP WITH
NOAA HERITAGE AND THE NATIONAL WEATHER SERVICE

AN INTERVIEW WITH DR. ELBERT “JOE” FRIDAY
FOR THE
NOAA 50th ORAL HISTORY PROJECT

INTERVIEW CONDUCTED BY
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Molly Graham: This is an oral history interview with Dr. Joe Friday for the NOAA 50th Oral History Project. The interview is taking place on Wednesday, October 7, 2020. The interviewer is Molly Graham. It's a remote interview with Dr. Friday in Edmond, Oklahoma, and I'm in Scarborough, Maine. I'm going to start at the beginning. Could you say when and where you born?

Joe Friday: I was born in a little town called De Queen, Arkansas. It's in the southwestern corner of the state, about eight miles from the Oklahoma border. I was born on July 13, 1939, a very hot summer afternoon.

MG: I read that you were born in your grandmother's home.

JF: Yes, in those days, it was not uncommon to be actually born at home. I was born in the back bedroom of my grandmother's home, and the doctor finally made it out, I think, just shortly after I was born. I'm told it was a rough go because the doctor wasn't sure I was going to survive, but my grandmother worked me over, and here I am.

MG: Tell me a little more about your grandmother.

JF: My grandmother's name was Hattie Hendricks Ward. She was about four-foot-ten. [laughter] Her husband died very early in their marriage. She had four children. Shortly after the fourth one was born, her husband died of pneumonia. My grandmother actually lived to be ninety-four. So that genetic trait is pretty good as far as age is concerned. But she had the farm all to herself. She would get help plowing it in the springtime, but she took care of the rest of it all by herself and managed about a hundred and sixty acres worth of land for the rest of her life until she became fairly ill when she was about ninety-one or ninety-two.

MG: What kind of farm was it?

JF: It was mainly just really a personal farm. She had an orchard that had peaches, apples, pears, persimmons if I recall. But she raised a lot of basically truck type of crops, the usual vegetables and all this. She didn't really sell the products for a profit, although she did sell a few. People around that neighborhood would basically trade products. She also raised hogs. I remember some of the family members would get together and butcher hogs in the wintertime. She had a smokehouse, which she would smoke the ham and all of this. I can still remember going in that smokehouse and thinking how wonderful it smelled. It was just a tremendous odor. I guess I will never forget that. I went back to my grandmother's farm about five years ago. She, of course, had passed away many years before that. I could just barely find it. The farmhouse was gone. The smokehouse was gone. It was just basically property laid bare. Even the church that was just next door to the farm was gone. So that whole area in southwestern Arkansas is just laid bare. I expect one of these days they'll be some development there, but right now, it was disappointing not to be able to see anything that I recognized.

MG: Was this your mother's family's farm?

JF: Yes, it was.

MG: Did she have siblings, and were they expected to help out on the farm?

JF: Like I said, her husband died. My grandfather died at a fairly young age. She ended up with a total of four children. My mother had one sister and two brothers. One of the sisters and one of the brothers never had any children themselves. They were married but never had any children. The other brother had two children. So I come from a very small family in that respect – two cousins.

MG: Can you describe this part of Arkansas?

JF: Its major industry, when I was there growing up – and by the way, “growing up” is a little misnomer because my father was in the military, and we would be traveling frequently to different places, living in different places. If he were going overseas, then we would usually go back and stay with my grandmother for a year or however long he was away. I was there periodically. The major industry at that time was the Dierks Lumber Company. They did an awful lot of lumber, papermill type of activity, telephone poles, all of that sort of thing. The industry there has now changed. Now the primary industry in the area is chicken and turkey farming – Tyson’s chicken has taken over where Dierks Lumber used to be.

MG: How did your mother’s family come to settle in that area? What is their background?

JF: They came from Georgia. It’s not a hundred percent certain exactly how all of that worked. I’ve looked a little bit into it. The family originally came over from Europe in the 1600s and settled on the East Coast of the United States – Georgia, North Carolina, and the like. My grandmother’s family came from Georgia and settled probably two generations prior to my grandmother in that part of Arkansas and basically were farmers.

MG: What about your father’s family history? Could you trace that a little bit for me?

JF: The father’s family history, like I said, I can trace that all the way back to a Fridig, F-R-I-D-I-G, as opposed to Friday, and I’m fairly certain when Fridig came into the United States or into the area – it was not the United States at the time because it was before the Revolutionary War. When he came in here, I’m sure they misunderstood it and thought it was “Friday.” So somehow or the other, it ended up with that name on the records, and they changed it shortly thereafter to Friday. So it was Friday ever since. He came over from Switzerland, if I recall correctly. Again, he came into the Carolinas. I could become a son of the American Revolution if I wanted to. I haven’t decided to do that, but I do have relatives that fought on the American side in the Revolutionary War. I also have several relatives that fought on the Confederate side during the Civil War. I don’t intend to join any of that organization either. So again, they were mainly farmers and came to that area. My two grandmothers lived about a mile and a half apart. Dad’s mom was not in particularly good health as opposed to my mother’s mom. So I didn’t really have as much to do with her as I had with my maternal grandmother. But I knew both of them. Both of my grandfathers had passed. I remember vaguely one of my grandfathers when I was about three years old. I can just remember a tall man with a dark mustache. And that’s all I can remember. I can’t remember anything else about him.

MG: I am curious about your parents' childhoods and what they lived through. I'm thinking about the Great Depression and perhaps the Dust Bowl era.

JF: They did live through the Great Depression. That part of Arkansas wasn't impacted as much by the Dust Bowl. That was more in Oklahoma and further west than that. But that was not impacted by the Dust Bowl. But it was impacted by the Great Depression. The saving feature for both of my sets of grandparents, my mother and father's, was the fact that they lived on a farm and were basically self-sufficient. So that allowed them to go ahead and subsist during this particular time. They could trade for the goods that they needed and the like. So they were not as harmed by the Great Depression as they might have been, although it made a fundamental difference in the way they viewed things, particularly financial matters and the like. They really didn't trust investment type of activities. They wanted to keep their cash in savings and in as hard cash as they could. And I think that was a problem there. They also felt that a good sign for raising children was to keep them healthy and heavy – fat. So I probably ate a lot more as a child than I should have. I've had a weight problem ever since, but I'm still working to keep it under control.

MG: You look very trim.

JF: Well, in the last two years, I've lost eighty pounds because I'm really serious about the fact that I had to start getting it under control. My cardiologist pushed me to do that, as well. So he's very happy with me now.

MG: Good. I wanted to ask, for the record, what are your parents' names?

JF: I'm a junior, so my father's name was Elbert W. Friday, Sr. His father's name was Walter Washington Friday. My mother's name was Mary Elizabeth Ward Friday. Her mother's name, of course, was Hattie Hendricks Ward that I just mentioned. Her father's name was Philip Michael Ward. That's the family back at least a couple of generations.

MG: You mentioned your relatives who fought in the Revolutionary and Civil War. Do you know anything about their experience and how they fared?

JF: [laughter] I do know that the Revolutionary War gentleman, I think, was fairly successful. He went ahead and lived a long life after the war. The gentleman that fought in the Civil War ended up as a prisoner of war for the duration. He was captured fairly early in the war, ended up as a POW for about three years. After that, he went back to the farm, and that was it. So it was not exactly the most glorious outcome, but things happen.

MG: Do you know how your parents met? I know their families didn't live too far apart.

JF: Well, they went to the same high school and so forth. It was a small town, a small high school. I'm told, and I can't verify this, obviously – I'm told that they had an off and on relationship. I am told, and the family legend says that mom told dad that she wouldn't marry him if he was the last man on earth about a week before they got married. But as far as their

married life was concerned. I only heard them argue one time during the entire time that I was living with them or knew them. So it was a very successful marriage from that point.

MG: Now, do you have siblings? Where do you fall in the birth order?

JF: I'm the oldest of three boys. I have a brother, Philip, who is four years younger than I am. He lives in the Harrisburg, Pennsylvania area. Of course, he's also retired now, but he worked for the State of Pennsylvania for quite some time as a purchasing agent for real estate properties that they were involved in affordable housing types of programs. Before that, he was a navigator on B52s in the Air Force. I have a brother James, who is the youngest of the three. He's eight years younger than I am. He is currently living in Sheffield, England. He was one of those that decided that he did not want to accept the draft during the Vietnam War. He went to Canada. He had married a girl who was dual-citizenship US and UK. So they went to Canada, and then onto England. He went to Oxford University, got his PhD in the history of science, and ended up teaching for several years at Port Moresby, New Guinea, at the university there, and moved back to England after he had finished his career there, and retired in Sheffield, England. I've seen him infrequently over the years. When he decided to leave the country, skipping the draft, my father, who had spent thirty-two years in the military – and my brother and I were in the Air Force at the time. My father basically disowned him for many years, and wouldn't even talk about him. I made a trip about five years ago to England not only to visit London and to be a tourist but also made arrangements for a reunion basically with James, my youngest brother. He was nervous about it. I was nervous about it. But it turned out to be a wonderful time, and we've gotten very close together since then. He's fairly ill. Of the three of us, I think he's probably in the worst physical condition right now, even though he's the youngest. But we communicate mainly electronically these days. It's so easy to do.

MG: Did he ever repair his relationship with your father?

JF: No. He did with mom, but dad passed away before he could do any reparation, if you would, repairing that relationship.

MG: That must have been so difficult for everybody.

JF: It was. That was a difficult time. I had some strong feelings about it at the time, and he knew that. We had talked about it before he left the country. But it was not unusual for that kind of strong feeling to exist during that war. That was a war that – I was the last US weatherman in Vietnam during that war. I was in Saigon during the tail end of the war, toward the ceasefire and all this. In the last few months before the ceasefire, it was very clear that the US had no real objective in that war, and it was going to be impossible to really win. Since that time, it's come out that even the senior officials in the Department of Defense, and then the administration, knew that was the case, and basically continued to spin the results of that. But I was a senior person in the weather business over there, and I would go into the wing commanders conference every morning for the base, and we would have a status report for what happened that day. There would be a body count, that went something like, "Reports are that 475 enemy were killed, three weapons recovered." But you knew that was wrong because they would have recovered a lot more weapons if they had eliminated four-hundred-and-some-odd people. So you knew that

was wrong. Then the war was being – the shots were being called on that war from Washington DC, as opposed to letting the people in the battlefield do what was appropriate. It was a real tragedy. I remember when they decided that they were going to make a major aircraft raid on radio Hanoi to stop the broadcasting of propaganda from Hanoi to the US troops in the south and to the rest of the world. They targeted over a hundred B52 aircraft to hit that radio station. Now, that was basically an old fashioned radio station, that if there were a coat hanger sticking up connected to the transmitter, they would still be broadcasting. In other words, it was almost impossible to take that type of radio off the air. That is the last time I remember deliberately going out and getting drunk because I knew that that many airplanes going over that area is going to result in an awful lot of US casualties and deaths. I also had a personal feeling there because my brother was a navigator on 52s at the time, and he was involved in that raid. So I forget how many airplanes went down. I think about a dozen. Phil's aircraft was hit, took quite a bit of damage, but made it back safely to the base, and so forth. Radio Hanoi didn't go off the air. So I guess that was one of the most frustrating times that I can remember during the time that I served in the Air Force. It didn't make any sense to me.

MG: I will ask you more about your service in a little bit. I was also curious about your father's service in World War II. He enlisted before the war. Is that correct?

JF: That's correct. He enlisted before the war. I think he had enlisted because he felt that he needed the job other than just simply staying on the farm. So he enlisted. He went into the Army. The Air Force didn't exist at the time. He became basically a communications technician. He took training there to operate radios, to repair radios and radio transmitters and receivers and the like. He ended up in World War Two, being stationed at Adak, Alaska, at the end of the Aleutian chain. Adak, you may recall, is the only place on US territory that the Japanese actually attacked in person. They invaded. He was there for a pretty rough time when that occurred. He made it out successfully. But most of the time, he was a communications engineer, Arctic specialist. He helped put in the distant early warning radar [DEW] systems across the northern part of this hemisphere. He was assigned to places like Thule, Greenland, for two different one-year assignments; Goose Bay, Labrador, for a one-year assignment; Point Barrow, Alaska, for a one-year assignment. None of these places were places where he could take his family. So we would either go back to Arkansas, or stay where we were at the time when he got the orders. So my mother almost was a single parent for quite a bit of the career. But he enjoyed the military. He thought he was doing a very good thing, and he was. It kind of instilled in me the desire for public service. So part of that influenced my desire to go into the Air Force. I had not originally intended on spending a career there. But I did want to serve my country for a limited period of time. I got involved in programs that were so much fun that suddenly, I realized I had spent a career in the Air Force before I retired.

MG: Do you know where your father received his communications training?

JF: Fort Riley, Kansas, I think, was this initial training that he had here. I don't recall any other details about that, but that's where he spent some of his very early time. We were not with him at the time. That was when he was just inducted. We were back at my grandmother's at the time.

MG: When you talk about his experience in the Aleutian Islands, was that the Battle of Dutch Harbor, where the Japanese attacked?

JF: I don't recall the name of it. It was Adak, Alaska, and I think Dutch Harbor – well, it was the only place that the Japanese attacked, so it probably was.

MG: Did he share these stories, or would he keep them to himself?

JF: He mentioned it a few times, but he didn't dwell on it, and he didn't want to go into a lot of detail on it. He said he just remembered the fact that he had a pistol. He didn't have a rifle at the time, and he wasn't sure if that was going to be enough. I remember him saying that. But apparently, it served a purpose. It was enough. He also spent time in Korea during the Korean War.

MG: Did he ever tell you about the conditions in Alaska? I imagine it was hard to get fresh food and resources.

JF: No, he didn't go into that very much.

MG: How much of your father did you see during your early childhood?

JF: Well, as I said, he was gone a fair amount of time during the time that I was at home. During [those] eighteen years that I spent at home, I think he was probably gone a total of at least six years during that time. So I would see him obviously otherwise. When he was home, he was very actively involved with the family. He took care of the house, the gardening, all that sort of thing. We always had a vegetable garden. I think that came from his early upbringing. We always had a vegetable garden. Mom always canned products out of it so that we were always well-stocked with fruits and vegetables.

MG: Your father served in the Korean War for two years as well. Is that right?

JF: That's correct.

MG: What do you know about his service there?

JF: Again, he was in communications. He was stationed near Seoul, Korea. Of course, when the Chinese communists came into the Korean peninsula and started pushing down – if you recall the history of that, the US forces – that's the UN [United Nations] forces, actually, not necessarily just the US. But the UN forces were pushed all the way down to the Pusan Perimeter down in the southern tip of the peninsula. He remembers that whole retreat area as well. He didn't talk a great deal about the actual battles and the actual battles themselves. He was not supposedly a combatant, although he did have to defend himself a few times. He did talk about one particular time that he felt was very humorous, and I guess it really was at the time, although probably scary. But apparently, at least in one of the areas, the Koreans were buried sitting up, not laying down, and so forth like we have now. A particularly heavy rainstorm washed away a lot of the graves. So some of the bodies, in various stages of decay, were basically rolling down

the hill toward the camp where dad was stationed at the time. He talks about that. I think that was the thing that I remember most about his discussions about Korea.

MG: His service continued through the Cold War. I was curious if that's when he was working on that radar system you mentioned.

JF: That's correct. All during that particular time, after the Korean War. I'm trying to think of the order. But the radars, for course, were going in all the way across the northern tier of this continent in order to identify Russian missiles and aircraft coming over the pole toward the United States. So he was assigned to do that. He was working on those all the time.

MG: Those were the distant early warning radars.

JF: The DEW line, yes, it was called.

MG: In your notes that you sent me, you talked about the drills you would experience in school. I didn't know if that hit particularly close to home for you because you knew your father was in the service.

JF: No, I don't know that that made them hit close to home. We went through the drills. We went through the fire drills and the nuclear attack drills and all of that. Of course, the strange thing is, the drills we went through would have done absolutely no good in case of a nuclear attack. But it probably made people feel better; they were trying to do something.

MG: Do you want to take a break?

JF: Let me do that. Let me go get a cough drop. I should have had some here. Excuse me for a minute.

MG: Sure.

[Tape paused.]

JF: Okay.

MG: I wanted to ask if your mother worked outside the home while you were growing up?

JF: No, she didn't. She would do some cooking occasionally for some neighbors who were working outside the home. I don't know that she ever got paid for it. I think maybe she got part of the food. But she never worked outside of the home.

MG: Can you trace your moves growing up? You were in a number of different states and places.

JF: In the very young time period when I was a toddler, we lived in – and I don't know the exact order of this – Midland, Texas, a couple of other places in Texas. Then after I can start really

remembering things, we lived in Warner Robins, Georgia; Memphis, Tennessee; Oklahoma City; Marin County, California; then back to Oklahoma City. Then I left home.

MG: You've lived in places that I associate with extreme or interesting weather. Was that something you were aware of growing up?

JF: I was always interested in weather. It was kind of exciting. I always felt thunderstorms were exciting. But that wasn't really the motivation that got me involved in weather in the long term. What got me involved in weather in the long term was the fact that when I wanted to get a commission in the Air Force and spend three years there, there wasn't any availability in my own career field. At that time, it was engineering physics, nuclear engineering. So the only option for a commission was either administration, which didn't excite me very much, or meteorology. I asked the gentlemen, "Where would I go to school for that?" He said, "You'd stay right here at the University of Oklahoma [OU]. They're just starting a program." So I said, "Well, let me try that." In that one year of school to learn how to spell weather, if you would, would also serve as one of my three years of commitment requirement. So my intention was to serve in the military for three years, get out, and go about my career. But getting involved in the weather business in the Air Force was so exciting because I was fortunate enough to be assigned to a place where I was involved in supporting, at that time, the very highly classified spy satellite program. A young kid, who was always excited about science in the first place, seeing this beautiful equipment, all of this technology, these huge cameras that went into space to take pictures of the ground, before I realized it, I'd spent a career in the Air Force basically involved in that kind of support. I did a lot of other things in the Air Force, too. But that's what started me in the field of meteorology.

MG: Can you tell me more about what school was like for you growing up, your middle and high school experiences? I know you did very well. You were valedictorian when you graduated from high school.

JF: I always enjoyed school quite a bit. I enjoyed learning. I enjoyed all the subjects. That's one thing my father instilled in me. He never graduated high school. He went ahead and got a GED. But when he was taking these courses, in the military, he would bring home his textbooks, and he would let me read them. So I learned algebra from military textbooks before I learned it in school. I learned a lot of the science areas from his helping me with some of the stuff that he was doing. That turned out to be really, really interesting. I did graduate as valedictorian. I did fairly well every place that I went as far as school is concerned. But it was inconsistent because some of the school systems were far more advanced than others. When I came from California back to Oklahoma, for example, I had had all the science and technical math courses that the Oklahoma school systems offered in their senior year. So to fill out the hours necessary for graduation, in addition to English, I took speech, play production, and debate. It turned out those were very useful subjects, as you go ahead about a career because it taught you to organize your thinking. It taught you reasonable presentation skills. So, like I said, it was very fortunate in one respect that I did that.

MG: Did you have any teachers that stood out to you or that were particularly influential?

JF: The teacher, which is kind of strange, since I've had a scientific career, but the teacher that stood out probably more than anyone else, was my speech and debate teacher, Barbara Reneau. She passed away, unfortunately, before her time due to cancer. She basically was the one that really influenced me as much as anything, as far as speaking and organizational ability was concerned.

MG: Dr. Friday, would you like to take a break for today, or for an hour or so?

JF: We've only done about twenty-five minutes. That's really terrible.

MG: Well, I'm flexible, and I don't want this to be uncomfortable for you.

JF: Well, let's come back in about an hour. Maybe we could do another thirty minutes in about an hour.

MG: That sounds good. We'll hop back on at 11:30.

JF: Okay, good.

MG: Well, this has been a good preview. We'll talk in just a little bit.

JF: Okay. Thank you. Bye.

[Tape paused.]

MG: How are you doing?

JF: Well, I think I'm doing okay. We'll give it a try.

MG: Okay. At any point, please let me know when you've had enough.

JF: Okay.

MG: Can you say where and when you graduated from high school?

JF: I graduated from high school [in] Midwest City, Oklahoma, in 1957.

MG: Did you want to say anything else about your experience growing up or your education up to this point?

JF: My education was many varied if you would – I did experience a lot of different communities, a lot of different schools, a lot of different people, and different ways of doing things. Marin County, Northern California, was vastly different from Warner Robins, Georgia, both in climate and just the people in general. Oklahoma was different from either one of them. But they were all interesting, and I enjoyed every place that I lived.

MG: Does anything stand out to you about the places where you lived?

JF: I can't identify anything specifically that stood out. I learned to drive, for example, in San Rafael, California. So that gave me the freedom of movement that I hadn't had before. I dated a girl whose father was the deputy warden of San Quentin. I would drive the car inside the San Quentin gates to pick her up. So I clearly had to be on very good behavior when I did that. That probably is the most memorable experience of my high school career was dating Barbara on San Quentin.

MG: Did you want to add anything else about that experience?

JF: Not really. I talked to her again, probably about four or five years ago, when they were planning their 55th class reunion at San Rafael High School. I did not go to that, and Barbara was really about the only person I still remembered from it. So in Midwest City, however, the class that I graduated with has been very close and has continued to stay very close together. Before COVID-19 occurred, we would meet once a month for essentially a mini-class reunion. We would usually have fifteen to twenty-five people show up for that. We had class reunions every five years up through the 60th, and we decided that was probably enough at that time.

MG: Well, I'm wondering if you could walk me through the tail end of your high school experience because it was then that your family moved north?

JF: Well, what happened was we were in California, and we had lived there a year and a half. Dad got orders to go to Newfoundland. We were on-base housing at Hamilton Air Force Base in Novato, California, outside of San Rafael. You couldn't stay on base if the primary person was not living there at the time. So when dad got his orders, we had to move. We had lived in Midwest city prior to the move to California. We had lived there about a year before we went to California. Mom had some cousins that lived in Oklahoma City. So we decided to move the family back to Midwest City over the Christmas holidays, if you would, in 1956. So I finished the first half of my senior year in San Rafael, California, and the second half of my senior year in Midwest City, Oklahoma. It was good in one respect because I was coming back to people that I knew. I remembered them from having gone to my sophomore year in Midwest City. It was bad in another respect because I really was looking forward to going to college in California. Once I left California, the cost of going back was just impossible. So we looked around and decided that the only place that we could really afford to go to college would be in-state University of Oklahoma. I remember the tuition rates were very attractive at that time. It was eighty-six dollars a semester, not a semester hour, a semester, for sixteen hours, or as many as you wanted to take. Enjoying school as much as I did, I always took eighteen to twenty, sometimes even twenty-one hours of college credit every semester in order to get my engineering program done in four years.

MG: I'm always interested in hearing about paths not taken. Where were you planning to attend school in California if you had stayed?

JF: If I had stayed in California, I probably would have gone to something like Cal-Tech [California Institute of Technology] or UCLA [University of California, Los Angeles]. But it hadn't come to that decision point at that time.

MG: What were you hoping to do when you graduated from high school? Were you making plans for the future during your senior year?

JF: Well, my plans were to go to college, major in an engineering field or a science field, and then go along that line. How it evolved at Oklahoma was that I ended up with engineering physics, which is a wonderful major for general scientific and engineering activities. You have more math than math majors, more physics than physics majors. You get all the basic engineering – electrical, mechanical, civil, and so on. So you get all of those basic skills, and you can branch out any way you want to from there. But the university had just started a nuclear engineering program at the time. The university had always been involved in energy with the oil and petroleum business here. That was the major emphasis at Oklahoma. But when nuclear energy came along, they added a nuclear reactor, and they started teaching courses in nuclear engineering. I took those as my electives in the overall engineering physics courses. When I graduated from college, I actually had an offer to go to work for Westinghouse Nuclear, but I was going to be going into the Air Force for my commission and serving three years there. So the agreement that I had with the company was that within six months of my getting out of the Air Force, I'd give them a call, and we would go ahead and get that setup. That was what I really had intended to do all along. As I mentioned earlier, I got so fascinated with the work that we were doing in the Air Force that, all of a sudden, that time came and went. By that time, I had become deeply involved in the Air Force weather support to classified missions, and just stayed, and enjoyed every assignment that I had, every job that I had in the Air Force.

MG: I wanted to hear more about that summer before you enrolled at the University of Oklahoma. I read that you bought your first car when you graduated, a Studebaker.

JF: [laughter] 1950 red Studebaker – well, maroon actually was the color, not really red – stick shift. I had learned to drive on an automatic transmission. I bought it the day before I graduated from high school. The day that I graduated from high school, that afternoon, mom and dad and my two brothers started off in their car for the East Coast to head to Newfoundland. I started off in my car, which I had just had less than one day. I started off in my car, heading for De Queen, Arkansas, to spend that summer with my grandmother. By the time I got there, I found out where most of the gears were. I may have left a few gear teeth around, but I found out where most of the gears were. I also discovered one thing. The car got thirty miles to the gallon of gas, but it only got about thirty miles to the quart of oil. It burned oil like a son of a gun. I didn't notice that when I bought the car. I didn't do any kind of checking. I was a kid. I paid two-hundred-and-fifty dollars of my own money for that automobile. I didn't notice the blue cloud of smoke that occurred when you stepped on the gas behind it. I suppose I was pretty good at getting rid of mosquitos in the area, but I did burn a lot of oil in that car, so much so that I would carry a case of oil with me in the trunk. It was used oil that had been taken out of other cars. I couldn't afford to put new oil in it as much as it burned. After having the car for about two years, I finally had the motor rebuilt so that it didn't burn oil anymore, and it became, actually, a fairly good car. But it was fun. I learned how to drive on it. It gave me the freedom to be able

to move around. It was absolutely essential with my parents taking off for parts unknown to me, at least. That was the last time I ever lived at home was the day before I graduated from high school.

MG: You bought the car, so did you have jobs growing up?

JF: Oh, yes. I started probably when I was twelve, thirteen years old mowing lawns. These were with the regular push mowers, not power mowers. We'd mow the lawns. I'd mow the lawns and trim them for probably fifty cents. Then, when I was in California, there was a job opening at a bowling alley on base, on Hamilton Air Force Base. I applied for that, and I didn't realize what a physically demanding job that is, setting pins at a bowling alley. This was before the automatic pinsetters. But I did a calculation; after a while, you lift about sixteen tons of balls and pins during an average evening at a bowling alley. The first time I did it, I came home. I thought, "Well, I made it through that." But boy, the next morning, when I got up, I wasn't sure I was going to make it through the day. Every muscle in my body was absolutely wiped out. But after a short period of time there, I developed some fairly decent muscle structure doing that. That's where I saved enough money to basically start school, to buy my car, and buy clothes and all that. The first thing I did at the University of Oklahoma – I looked for jobs, and I got a job taking care of the laboratory equipment in the botany department at the university for the princely sum of forty-five cents an hour. But it was enough to get me spending money. I could buy gas. I could buy clothes. I could do whatever I needed to do with that. After a short period of time, I was working two jobs at the university because I got a job with another person in the botany department, who was one of the world's leading experts on cactus. He had two greenhouses full of cactus there, and my job was to take care of those. He paid a dollar an hour, which was really good. So that was the way I made it through college if you would.

MG: Taking care of cacti sounds like a pretty good gig. How much care do they need?

JF: Well, they actually need more care than you might think because they're subject to bugs. Little spiders would get them, chiggers type of spiders, little red spiders. So you had to worry about that. You had to worry about water, curiously enough – make sure you didn't get too much, but they did need water. He was growing various cactus as well, so we would end up separating and dividing and all that. In addition to that, he was taking all kinds of microscopic slides, photographs. My job was to develop the film and do all the processing of all of his data. So I learned some useful skills there. I got to where I could develop both black and white and color film in the darkroom, do all the printing, do all of that. So it was useful from a practical standpoint, as well as making sure I had enough money to get through school.

MG: I know that the then-president of the University of Oklahoma, George Cross, had a botany degree and background.

JF: George Cross, yes.

MG: Did you have any interactions with him? He was a well-liked president.

JF: I met him a time or two, not extensively. Dean Couch was another botany professor there, and he was dean of the University College, if I recall correctly, at the time. I worked for him as well because he was working with the Boy Scouts in the area, and they had a camp out east of town. Right after I had met him, he said, "Would you like to earn a few dollars?" Of course, I was always very interested in doing that. Immediately, he gave me an assignment of going out and spraying the Boy Scout camp for poison ivy. "Do you know what poison ivy looks like?" "Oh, yeah. I try to stay away from it." He said, "Well, this time, I don't want you to. I want you to go out and spray it." So I went out and sprayed about ten acres for poison ivy. I don't know how much damage I did to myself at the time, but I didn't catch any poison ivy during that process.

MG: Before I ask you more about your college education, I wanted to make sure there was nothing I forgot growing up. Did your family attend church services? Was religion a part of your growing up?

JF: Religion was very important to the family. There was a little community church right next to my grandmother's house, and I can remember going to that every Sunday night, every Wednesday night. There probably weren't more than twenty or so people that attended that. But we would sing songs. We would sing the hymns, and we would listen to a preacher that would rotate through the various small churches around the area. He would only be there about once every month. But I remember that. We attended usually the Southern Baptist Church wherever we were. I was raised Southern Baptist. I was baptized when I was twelve years old in the Southern Baptist Church in Memphis, Tennessee. I still attend the Baptist Church today. It was important to the family.

MG: I also wanted to ask about saying goodbye to your family at graduation. This was a lot of transitions at once.

JF: That question is very interesting because when you were asking it, I was trying to think what my feelings really were. I think they were more of excitement than anything else because I realized I've just graduated from high school. I'm just taking off on my own. I'm going to be starting college fairly shortly. I'm going to miss my parents and my brothers, but on the other hand, this is an exciting time to take on. So I looked at it as just that, as a time to enjoy, a time to be excited. I enjoyed spending time with my grandmother that summer. I took care of all of her yard work. I did all kinds of other work for her. I think I repaired my car a couple of times. [laughter] She lived fairly far out of town, so I would take her in. We would do shopping and all of this. Then, when I got ready to come back to university, that was an exciting time as well. I checked into Cross Center, which was one of the original housing areas, or one of the older housing areas at the universities. It was fairly new at the time, but it's one of the older ones now. I had a roommate, and we didn't know each other at all – (Jerry Kasperek?). He was a petroleum engineering major. He's still active in that business, or at least he was recently. But he was a member of a fraternity, and I couldn't join a fraternity. I didn't have enough money to do that. So we weren't particularly close, although we got along very well. So it was all a different experience. That's kind of the way my whole life has been. I've enjoyed every job I've had, even though I wasn't sure about how easy they would be as I moved into them. But on the other hand, I was eager to move into them. So it's been exciting from that standpoint.

MG: The college had been integrated two years before you arrived. Was there any leftover racial tension on campus? What was that like for students?

JF: I never saw that. I never saw – it was still mostly white at the time. There were very few minorities there. But as the African American football players became stars, the attitude changed, and they were very happy to see that. I remember the stories being told about the law school being integrated for the first time, where the students actually removed the barrier that they had built around the Black student that was admitted. But I didn't meet any of that personally, and I never saw any particular racist activity along the way. I grew up in an area in Arkansas during that time. I grew up in an area at that time that there was segregation. There were different facilities – water fountains, so forth. There were areas that Blacks could not enter in all of this. I never thought that much about it until later. I look back, and I just can't understand how that happened. I understand physically how it happened. I understand the process. But I can't understand why racism and discrimination continue to this day. Like I said, I just don't understand it.

MG: Me neither. I want to hear more about your work in the botany department. I know that you spent one summer in Central Mexico.

JF: Yes. Yes, indeed. The gentleman that took care of the cactus was very active in data collection, particularly during the summertime, during the summer break. I got a chance to accompany him and one other professor on a trip down to Central Mexico to gather specimens. He had an old Plymouth that we weren't sure a couple of times that it was going to make it up the various hills out in the deserts there in Mexico, but it made it finally. He would see something off in the distance and said, "I think that's ..." and he would call it by name. He said, "I need to get a specimen of that." So we would start walking off, across the desert after that thing that he had seen, after that specific type that he had seen. Usually, he was correct, and we collected the whole trunkful of samples. So as a result of that, he had an awful lot of work to do after we got back, and I got to develop a heck of a lot of film after we got back. But that trip into Mexico was eye-opening in a lot of respects because it was off the beaten path. I had been to El Paso before because one of my uncles lived in El Paso. So we had gone across the border to Juarez. But to actually have been away from the tourist areas and seeing the interior of Mexico and then some of the small towns, I did not speak Spanish, but both of the professors with me did, and Spanish was basically the only language that was spoken where we were during that time period. But it was really interesting to see the different way – some of the hotels we stayed in were really very crude, but they were okay. You weren't sure you wanted to sleep in the bed, but they were still okay. Made it through. Had an enjoyable time. Made it back. As I said, it was a fun trip. I never dreamed, when I started out in college, that I would end up going on cactus collection trips. I certainly never dreamed I would take care of two greenhouses full of cactus. But I enjoyed doing that. I did that for a couple of years. Then I got an offer for a laboratory assistant over in the physics department, which was more along the line of what I really wanted to do. After a reasonable period of time, Dr. [Norman Hill] Boke, who was the gentlemen that had the cactus, and I agreed that it was time for me to move on and get along with my own major area of work. I enjoyed very much working for him, but I also enjoyed working in the physics department, as well.

MG: Did you consider minoring in botany?

JF: No. The biological sciences – botany and so on – were always mysteries to me. I understood math and science. I understood physics and chemistry. But I didn't understand the life sciences. They didn't seem to have the organization that the physical science had. The physical sciences were organized by mathematical structures and physical principles and chemical reactions and so forth. But the life sciences seem to have a whole different mechanism structure, and I just couldn't comprehend it. I remember I started a course on organic chemistry as an elective. It had the same problem to me. Inorganic chemistry was fine. I understood the processes. I understood the mechanisms, but when you got to organic chemistry, it was just something that was beyond me. So that's one of the very few courses that I dropped out instead of completing in college.

MG: I wouldn't have done very well in organic chemistry. You met your wife in college. Can you tell me that story?

JF: Do I want to? Yes, I'll go ahead and tell it. After the first semester where I stayed on campus, I was looking for ways of saving money. A friend of mine, who lived in Midwest City, his parents had an apartment in their garage. It was really just a room and a bathroom. They were willing to rent that to me for about half the price that I was paying for the university. Since my car, by that time, was in reasonably good condition and getting pretty good gas mileage, I did a calculation and decided that I could do that and commute down to the university cheaper than I could stay in university housing. So I did that. One of my friends that we commuted with, running back and forth to the university, lived in Midwest City as well. He and I would go down, and on the way back one time, he said, "I'm really having trouble with my girlfriend," and I had met her briefly. He said, "She wants to break up with me." So I commiserated with him a little bit. After a couple, three days, he said, "Would you go down and talk to her and try to point out the fact that I'm really a pretty good guy?" I said, "Sure, I'll do that." She was a carhop at an A&W Root Beer stand. Now, she wasn't on roller-skates. That was fairly popular. She was not on roller-skates for this particular job. But she was the carhop at an A&W Root Beer stand on Midwest Boulevard in Midwest City. So I went down, and she would come and wait on me, and I would order usually a hamburger and a root beer. I would talk to her. I did this for, I don't know, a couple, three weeks. Then I finally said, "I don't know why I'm trying to talk you into going back with Al. I'd kind of like to date you myself." She said, "Why don't you?" So that started a relationship that ended up, about a year later, with us getting married, and we were married for forty-seven-and-a-half years before she succumbed to a battle with cancer. Wonderful lady – Karen Hauschild. Her grandparents came over from Germany, settled in the Mennonite community near Fairview, Oklahoma. Her dad was a victim of the Dust Bowl and basically couldn't make it on the farm up there. World War II was starting, and he came down and started working at Tinker Air Force Base in the aircraft manufacturing at the time that went on very early on. So she was one of few people that actually attended all thirteen grades, kindergarten plus twelve grades, in the Midwest City school system from the very beginning. That was at the beginning of the Midwest City school system. So, like I said, that was a strange way of meeting her. But I found out, also at the same time that I was up trying to convince Karen that she should go back to Al, that Al had asked the girl that was I dating out for a couple

of dates. He did not tell me that. I found out later on. They got married. That marriage lasted until he passed away from complications of cancer many, many years later. I don't know exactly how long. But it's interesting how that happened because both of those marriages that resulted from those four people were very happy and very successful.

MG: It sounds like it worked out.

JF: It worked out very well, yes.

MG: You were married a year later. You must have been about twenty years old.

JF: I was twenty years old. She was eighteen. In Oklahoma at the time, a woman was of majority at eighteen; a man was of majority at twenty-one. She could buy beer, and I couldn't. We would go to the bars, and she didn't drink. So she would buy me beer, and I'd buy her a Coke. We would switch them around unless police came in. Then we'd make sure they were switched around the other way. But that was fascinating. After another year or so, I hit twenty-one and didn't have that problem anymore.

MG: How did you celebrate your wedding?

JF: We couldn't afford much. [We] got married on a Saturday. We wanted to get married on a Friday, but her parents would not allow it because we got married on November 14th, Saturday. So November the 13th was a Friday, and Friday the 13th was not permitted. So we got married on that Saturday. We spent that evening in a little motel in downtown Oklahoma City. Looking back now, it was a terrible place, but then again, that was our honeymoon. Then I went back to – we just moved into an apartment at the University of Oklahoma, Neiman Apartments. Neiman Apartments no longer exists. It's been torn down, too. It's always terrible that you get old enough to see all these places that you grew up with are no longer there. They change. My grandmother's house was gone. Neiman Apartments is gone. Cross Center that I stayed at has changed completely. It's administrative support now. It's interesting to watch those changes occur. So I went back to school, like I said. I had midterms – or not midterms – I had some major exams that following Monday and Tuesday. So like I said, it was a very short honeymoon, but it was fine. Like I said, it seemed to work okay because we were married forty-seven-and-a-half years.

MG: Were you doing ROTC [Reserve Officers' Training Corps] on campus? Is that how you got your commission?

JF: That's right. Oklahoma University was a land grant college. At that time, the law required all land grant colleges to have ROTC for the freshman and sophomore male students. All male students were required to take that unless there was a physical reason they couldn't. This was pre-draft, but it was one way of trying to get some sort of military training with people and build up a cadre that could serve if need be. So I did want to get an Air Force commission, as I said. My father had been enlisted for about half the time that I was with him, and an officer for the other half. I was fairly smart. It didn't take me long to realize it was better being an officer than it was being enlisted in the military. So I wanted to go ahead and get an Air Force commission.

You had to sign up for advanced ROTC to be taken in your junior and senior year. That's when I made my career decision because when I went down to sign up, the sergeant that was taking our names and all that, said, "What are you majoring in?" I said, "Engineering physics." He said, "We can't use you." That's when I was just dumbfounded. I said, "Why not? It's the sort of thing that's good. More physics than physics majors. More math than math majors. All the engineering skills." He said, "You don't understand. The Russians launched Sputnik two years ago, and the Air Force hired so many scientists and engineers they're now coming out of our ears. We don't know what to do with them. So we don't need any more scientists and engineers right now." [Editor's Note: Sputnik I, the world's first artificial satellite, was launched by the Soviet Union on October 4, 1957.] That's when I asked him what the options were. He said, "Well, you could be a pilot." I said, "Well, I don't really want to do that because that's a five-year commitment and being a non-flying type is only a three-year commitment." He said, "Yeah, that's right." He said, "So we can put you in supply, or we can't find enough weather guys. We could send you back to school and learn how to speak weather." So that was my very careful career decision process.

MG: So when he said, "We'll send you back to school to study meteorology," did that mean changing your undergraduate degree, or pursuing advanced education in meteorology?

JF: I went ahead and got my four-year degree with engineering physics, with a nuclear engineering specialty, as I indicated. But the basic meteorology training was beyond that. It was interesting. Like I said, I had no intention of staying in. So because I had all the math and physics in the engineering physics program, I had a lot of spare time in the basic meteorology course that one year. I'd had all the math. I had vector analysis, tensor analysis, all that, which a lot of people had to take as a part of that program. So I took more nuclear engineering courses during that time and did everything but a final thesis for a master's in nuclear engineering during that time because my intention was to go back into that career field after I finished. But it didn't work out that way because I had so much fun in the weather business after that.

MG: Wasn't the meteorology program fairly new to the University of Oklahoma at that time?

JF: Actually, they were just starting it. I was in the second class of basic meteorology here. They were just starting it. Dr. Walt Saucier brought the program up from Texas A&M, and he brought along with him a Japanese scientist, who had just come to the United States recently, Dr. Yoshi Sasaki. He brought with him four graduate students that he had in Texas – Rex Inman, Stan Barnes, Victor Whitehead, and Sam Hall. They were the ones that actually started that program and started teaching. Sasaki ended up being my major professor when I went back for my PhD, and just really a world-renowned dynamic meteorologist. Saucier was probably the best synoptic meteorologist, meaning one who was able to analyze the meteorological data and identify the patterns of exactly what was going on. He probably was one of the best synopticians that I had ever known. So those were two key people. Dr. Saucier also knew the chief scientist of the Air Weather Service, the Air Force weather program, and called him up shortly before I was due to graduate, and said, "Hey, I've got this kid here who's got a pretty good background. I think you ought to bring him into the scientific services area as soon as you can." So that's why I ended up where I did and ended up supporting the classified mission programs. If he hadn't have done that, I probably wouldn't have stayed in the Air Force. Because if I had gone

out to a standard forecasting job, although I probably would have enjoyed it, I don't think it would have been one that would have kept me. But working with all the classified programs and seeing what we could do and being a part of that capability, a part of that technology, that's what made the difference. That's what trapped me into the field. I don't regret a bit of it. Because, like I said, I had more fun than I could ever imagine before.

MG: When you graduated from college in 1961, you were again at the top of your class.

JF: Yes, I was number one in the engineering school at the University of Oklahoma. I was surprised. I didn't have a four-point [grade point average]. Nobody had a four-point in the School of Engineering at OU, but I had a 3.86 overall out of four, and I graduated at the top of the class. I was very fortunate.

MG: You'll have to tell me about your graduation day. Then, we can take a break after that if you would like.

JF: Graduation Day was an exciting time. University of Oklahoma has had some interesting graduations, but this was one that I think may have been at the top of the list. The first thing I did in the morning, we went to a commissioning program, where I received my commission as a brand-new second lieutenant. So I had my uniform on. We were in the building, getting our commission, went through the program, and came out. I looked up at the sky, and the clouds were rotating directly above me. We were right in the middle of a thunderstorm mesocyclone. Tornado warnings were about to be issued. So there was an announcement over the loudspeakers and all of that that they were canceling graduation. It was an outdoor graduation at Owen [field], in the football stadium, which was much smaller than it is today. I think it's about three times now as big as it was at the time. So they canceled graduation. Well, my wife and I and my parents, we had lunch, and then they took off to Pennsylvania, where they were stationed at the time. Karen and I went home to our apartment. Then they made the announcement that, "We're going to have graduation tomorrow." Well, this was before cellphones, so there was no way of getting in touch with my parents, saying, "Hey, we're going to be graduating tomorrow." So I graduated the next day with my wife's parents there, but not with my parents.

MG: Were you disappointed that they could not attend?

JF: Well, you're always disappointed if [they] can't attend. I was going to be announced as graduating with special distinction, but they knew that. It was in the program. They knew that there. But at least, it would have been nice being able to walk across the stage in front of them and have them see that. But like I said, they knew it. It was in the program. They had copies of the program.

MG: What was that summer like? What were your next steps in terms of the Air Force and your education?

JF: Well, we started school right away. The Air Force immediately decided they wouldn't waste any time with us. We'd start summer school, and we started our basic meteorological training. I remember the first thing that we did. We were given instruments to measure temperature and humidity. We were told to go out on the Duck Pond, which is a park right adjacent to the

university and walk around the Duck Pond. So we went around the Duck Pond, and we took observations at a dozen or two dozen different places around there. Then, we went back to the laboratory, and we said, “Okay, now draw a map of the humidity and the temperature.” None of us had ever done anything like that before, so we didn’t quite understand continuity and all of that. Some of those maps you look back at now were really very interesting. But that was our beginning to start to understand how weather patterns looked. Of course, that was a very small scale, but we were also doing weather patterns on a very large scale. In those days – remember this was 1961. The weather satellite that we use today and we think so highly of was not launched until April 1, 1961. That was our first meteorological satellite. Before, we had no view from above. Our weather radars at the time weren’t all the nice things with color-coded indications of rainfall rate and hail, and all of that that you see today. They were kind of fuzzy, white/grayish blobs on black. They were fairly few and far between. So we didn’t have the way of seeing all of the weather patterns. We had to put that together in our own mind, and by understanding how the atmosphere behaved, you could start to construct what happened. The most fascinating thing I can see, as we move forward, and every time that we would bring new technology online, you would start seeing that the atmosphere is behaving just as the theoreticians – Dr. Walt Saucier, for example – had said it was going to behave. That was the fascinating thing that now we could see it. We could see it easily, and we could see it completely, but you couldn’t in 1961. I think, Molly, that’s about all I’m going to be able to do right now.

MG: That’s fine. This gives me a lot to think about. We can pick up here next time.

JF: Okay.

MG: I will email you with my availability.

JF: That would be great.

MG: Okay. I will send you an email after we hang up.

JF: Very good, Molly. Good talking to you.

MG: It’s been so nice to talk to you. This has been a treat so far. I’ll let you go, and I’ll look forward to when we can do this again. Thank you so much.

JF: Okay, great.

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Reviewed by Molly Graham 10/13/2020

Reviewed by Joe Friday 12/3/2020

Reviewed by Molly Graham 12/19/2020