

Forks in the Road and My Travel Through Life

- Chapter 5 - Life After College

1964

I graduated June 6, 1964 from Utah State University with a B.S. in Applied Statistics. Thiokol promoted me from computer operator to Junior Programmer. Thiokol had the contract to build the 1st stage of the Minuteman Missile and I would be doing Fortran programming on missile related stuff. It was an exempt monthly salary of \$705 per month and I would be working permanent dayshift, which was nice after working three years on shift work.

I moved out of the computer room and across the hall to a big open room with desks lined up one after the other in typical aerospace engineering style. The manager sat in a room behind us with a big window so he could see what we were doing (or not doing). We wore shirts with necktie and slacks. It was the custom to have a pocket protector with pens and pencils in your shirt pocket. In today's words we were "nerds". I was happy to be in a professional job, but it was not an office environment I wanted for the rest of my life.

Now that I had the summer free we bought a new tent and sleeping bags. We spent weekends camping in Logan Canyon, Bear Lake, and went to Bryce Canyon. When we arrived at Bryce Canyon about 2am we found that we had left the tent poles home. We put down the front seats in the Rambler for a bed for us, and the kids slept in the back. It worked great.

We spent the 4th of July weekend camping at Bear Lake where I sunburned the top of my feet badly and could not go to work for two days. Another place we liked was up Strawberry Canyon east of Hyrum towards Bear Lake. LaRue's dad, Morris, had a summer job up there riding for the cattle association looking after hundreds of cattle. He restored an old sheep camp that he parked in the aspen trees. We would go up and spend weekends with him. We would be in our new tent. The beauty of the aspen grove, the mountains, the wild-flowers, and the sunshine was perfect. The kids got to ride horses, and I rode with Morris to move cattle.

LaRue's brother Val was a forest ranger on the district. They would come up weekends and stay in the Forest Service cabin nearby. We even had a Gibbs family reunion, and everybody came from all over. It was one of the greatest places ever.

Another camping trip we enjoyed was a trip to visit LaRue's brother, LaGrande, who was herding sheep. He was on a mountainside just before you cross the border from Idaho into Star Valley, Wyoming. We loaded up LaRue's folks, Morris and Mattie, and all our camping stuff in and on top of the Rambler and took off. We got to where he said he would be beside the road but there was no LaGrande, and no sheep visible anywhere. We went to Star Valley and

backtracked looking for him. I stopped where he said he would meet us, and I smelled sheep. I took off on foot up the side of the mountain. I finally found sheep and his camp, but he wasn't there. I waited around and he finally rode in looking a little sheepish. He had ridden his horse to a tavern down the canyon, and was drinking beer when we went by. His weakness for alcohol had over ridden his obligations.

We got his spare horse and his pack horse and rode down to the highway. We packed the poor packhorse as high as it would go. We even had a card table on the top of the load. Tourists were driving by gawking at us and laughing. It was quite a sight as we headed up the mountain. Morris and Mattie rode the horses and the rest of us walked. We had a nice camp in an aspen grove and the kids got to sit on the horses and play cowboy. LaGrande killed and butchered a lamb, much to our chagrin with the kids around. We roasted it over the fire. It was a weekend to remember.

Around the last of August we decided to take two weeks vacation and go see everyone in California. We couldn't go earlier as I was low man on the totem pole and got last pick on vacation time.

Knowing Thiokol was getting shaky I asked my supervisor if I had to be worried about getting terminated in the immediate future due to the lack of funding and work. If it looked like it might happen I would look for work while on vacation. His reply was, "Don't worry. We need programmers and they are hard to find. You would be the last to go."

We had a nice vacation and returned to Logan on a Sunday. That evening the phone rang and it was the driver of the carpool. He said he would not be coming by to pick me up Monday morning as he had been laid off. Also, the other four in the carpool had been laid off. After a pause he said, "you were laid off also". Wow, what a kick in the face that was.

I drove to Thiokol Monday morning and went to my desk. There was a big red X on my desk pad. I turned around and there was my supervisor with termination papers in his hand. I was processed out and home by noon. Now what do we do?

Thiokol did everything they could to help place people. They set up and staffed a "recruiting in reverse" center in Brigham City. We could get help writing a resume and use telephones, copiers, etc. They also invited companies to come to Brigham City to interview candidates.

I went over to Brigham City the next day and got started. I had three months experience as a professional programmer. Nobody would be interested in me. I was openly wishing I had a year of experience. An older engineer working nearby on his resume said, "Yeah, but you don't want a year of experience forty times". I filed that one away in my mind somewhere.

Within two or three weeks I was getting offers, and some without even being interviewed. Programmers were in big demand. I had an offer from Boeing in Seattle, Washington as well as Huntsville, Alabama, Ford in Detroit, Pratt and Whitney in West Palm Beach, Florida, interest

from Bendix in the Mojave Desert, and interest from Honeywell somewhere that I don't remember. IBM requested me to come to Poughkeepsie, New York for an interview. I hopped on a flight to New York and rode the train up along the Hudson River. The interview was over two days, and included a programming aptitude test. One manager that interviewed me was from Idaho. Over lunch I asked him what he thought of living and working in New York. He said he would rather be in Idaho.

Before I departed IBM I was told that I would receive an offer in the mail and their policy was the job would have a six month probation period. Also, IBM had a dress code. You measured up or you were out. Then they put me on the train to New York City and said there was a room for me at the Waldorf Astoria. They told me to take in the World Fair on IBM. On the train into the City I was sitting behind two young IBM engineers, and they were griping nonstop. I was all ears.

I thought about it a lot on the flight to Utah. The offer was for software development for the operating system (OS) for the new IBM 360. It was something I wanted to do but what I had overheard, and the thought of moving to upstate New York tipped the scale the other way. I declined IBM's offer, which most people don't do.

I was pondering which offer to accept when I was notified that a manager from Edgerton, Germeshausen, and Grier (EG&G) in Las Vegas was in Brigham City and wanted to interview me. EG&G was the prime contractor for the Atomic Energy Commission (AEC) in Las Vegas and responsible for the operation of the Nevada Test Site. I went to the interview and was impressed with Jim Carter, who was the manager of systems programming for the scientific computer system in Las Vegas. All my experience was on IBM computers and they had a Control Data Corporation (CDC) 1604 computer.. I knew nothing about CDC, or the 1604, and started looking for a way to end the interview. He said I would really like the CDC 1604 and why don't I come to Las Vegas and have a look. EG&G would fly LaRue and I down. I thought it was worth a look, and it was a free trip for both of us to Las Vegas.

We flew down and I spent a day with more interviews and took a programming aptitude test. I was relieved to find the computer center was in town and not fifty miles out on the desert. It was across the runway from the airport terminal. Jim Carter was correct. I was impressed with the CDC1604 unique features. It was ten times faster than the IBM 7090. It was designed by Seymour Cray (now a legend). From what I could tell it was a much better scientific computer than IBM's. Furthermore, my job would be a systems programmer maintaining, fixing, and enhancing the operating system. You got into the internals of the computer and what makes it work. Then I began to worry that I wouldn't qualify for the job as I only had three months as a professional Fortran programmer. EG&G extended a good offer that included all moving expenses. I accepted, and we were moving to Vegas.

Somewhere along the line we had acquired two cats. Kathleen and Brian named them "Table Head" and "Rolley Cookie". We had to find a home for them. LaRue's dad was still up in the mountains with the cattle and liked cats. He agreed that we could bring them up. The cats were

not there long and went missing. It was well after we were in Las Vegas that we learned one of the cats found their way to the house in Logan. It was at least thirty miles through rough mountains and canyons.

The movers packed us up, loaded everything in the moving van, and we were off to Las Vegas in early October. We were put up in a hotel just off the strip and looked for a house. We found a small two bedroom with a carport at 1705 Bonita Avenue between Sahara and ,Charleston and near the Boulder-Henderson highway. The air conditioning was a swamp cooler but it worked well in the dry climate. The lawn was sand and Bermuda grass.

I had to wait for a clearance again before getting into the inner sanctum. The AEC clearance required was for a higher level than the AEC required in Berkeley. Oh well, by now I was accustomed to waiting for a clearance. There were several of us working in a common bull pen office. It looked out on the main runway of McCarran Field, and across to the Strip. We could see the Dune's sign from there. When the Dune's sign came on in the evening we knew it was time to go home.

We took notice of two white jet passenger planes with a red stripe down the side and no other markings. They would depart in the morning and return in the evening, and park in a big hangar next to our building. We were told they were EG&G airplanes and they were doing air sampling work over the Nevada Test Site. I learned many years later they transported workers to and from the super secret Area 51. The red and white paint scheme were the colors of the EG&G logo. The logo was a white oval and the center was EG&G in red. We called the company the "egg" company. A truck even pulled in one time looking for the egg warehouse. The name was a shortened version for three scientists (Edgerton, Germeshausen, and Grier) at MIT that founded the company. Their high-speed photography expertise was utilized for filming nuclear tests at the Nevada Test Site and thus EG&G became the prime contractor. *(Years later I ended up working again for EG&G in Idaho Falls).*

My clearance came through and I began working in the computer center as a systems programmer on the CDC 1604. I helped maintain the operating system and began learning about keeping the system running and diagnosing and fixing problems. The CDC computers were much different than IBM's computers as they were designed for solving scientific and engineering problems with better numerical accuracy ,and they were faster. I became a big fan.

Living in Las Vegas we got a lot of visitors. I would get home on Friday night and there would be a strange car in the driveway. Some people called ahead, and some dropped in. At first we would get a sitter and show them the town. After a while we told them where to go and would stay home and watch all the kids. We even loaned money to a couple who we did not know but their parents were friends of mom and dad. They were broke and needed money to get home.

We did not gamble, other than put pocket change in a slot machine as we passed by. We did enjoy going to the lounge shows that were excellent and free. We especially liked the Kim Sisters at the Stardust and Louis Prima and Keely Smith at the Sahara. One night at the Sahara

Don Rickles was at a table nearby and was constantly heckling and disrupting the show.

Our neighbor was a pit boss at the Riviera and anytime we wanted tickets to the main show he would comp them. He was an older guy and his daughter was attending Stanford, so I am sure he did well. I was convinced he was mafia and he looked the part. Mafia was very present in Las Vegas. Friends of ours from Salmon lived across town and their backyard neighbor worked for the mafia, and he was very open about it. Nice people too.

It was just before Christmas 1964 and I went out one evening to do my shopping. I was crossing the street downtown beside the Golden Nugget and a car going through the intersection honked, yelled my name, and pulled over. It was my old friend in Scotland, Ed Smith, and his wife. What a surprise that was. They were in Las Vegas for a couple of days then moving from Salt Lake to Denver. He had dropped out of the University of Utah and was working in the design of fire suppression systems. He was moving to Denver to design and install fire systems for Frontier Airlines. That was our last contact until I found him 55 years later.

Christmas Eve came and Kathleen and Brian were hyper and excited. We decided to get them out of the house and go to Shakey's pizza. Shakey's had a big window where they could stand and watch the workers make pizza. That entertained them and got them out of our hair. Pizza on Christmas Eve became a family tradition that we enjoyed from then on.

1965

One morning I arrived at the office and there was a turbo prop passenger plane crashed in our parking lot. It belonged to Bonanza Airlines and was on a training flight when it went out of control and came down next to our building. The airline company hurried and painted out Bonanza on the fuselage. Their airplanes were painted orange, so everyone knew who it belonged to anyway. Another one of their planes letting down for landing in Las Vegas hit a mountain and killed everyone on board. We watched the helicopters from our office as they brought in the bodies.

I had to fly to Los Angeles for a one-week training class and I was booked on Bonanza. I was highly nervous about it.

We had acquired a cat before I departed and the last night in Los Angeles I got a distress call from LaRue. The cat was sick from what looked like distemper. I got home the next day and the cat was dead, so we went out on the desert and had a funeral and buried it. I let Kathleen drive the Rambler very slow while we were out there. She was about six years old.

A secretary at work announced she had a batch of new puppies that were a cross of schnauzer and miniature poodle. We went to see them, brought home a black one, and now we had to name it. Wilson was the husband's name and we thought it sounded and fit perfectly. So, the pup got the dignified name of Wilson. The secretary said her husband was highly flattered. Wilson turned out to be quite a character.

In the spring we enjoyed a couple of camping trips to Death Valley. One night the wind blew so hard I backed the Rambler up close for a wind break and tied a rope from the roof rack to the top of the tent frame. While I was doing this Brian announced he would hold the tent up. A family that was with us had an old wall tent with no floor and sand and rocks were whipping through all night. They were not impressed with Death Valley.

We enjoyed going to the Valley of Fire to picnic and hike. From there we would continue to Overton in the Moapa Valley so the kids could see farms with cows and hay fields. It was nice to get away from the glitter of Las Vegas and see normal people. Picnics were also enjoyable in the evening at Lake Meade even if it was hot. In those days turtles were a hazard on the road that you had to dodge around. Many turtles got splattered and today you never see any. A big turtle even meandered through our back yard one evening.

We decided to go to the north rim of the Grand Canyon over the 4th of July. LaRue got whole chickens and cut them up and fried them for our trip. We arrived at the north rim after midnight and the campground was full. I pulled off into a flat area and set up the tent and we went to bed. I got up the next morning and we were on the edge of the canyon rim, and it was about a 1,000 foot drop. Glad we didn't wander around in the dark. We waited until someone pulled out of the campground. We got a nice spot and enjoyed the Grand Canyon.

We got back home where it had been around 110 degrees all weekend. I opened the front door and the smell about knocked me over. I closed the door and then it dawned on us that we had not taken the garbage with the chicken parts out when we left home. I held my breath and dashed in, grabbed the garbage, and went out the back door gagging as I went. That was the worst smell ever. Since then we always double check the garbage when we leave on a trip.

The summer of 1965 I took vacation time to get away from the Las Vegas heat and we went back to Logan to visit LaRue's parents. While there I visited the Utah State Alumni Office and got to know the director, Swede Larson. We talked about things I could do in Las Vegas which had a lot of Utah State alumni living there. Utah State was playing Arizona State in Tempe in the fall and he gave me the idea of sponsoring a bus trip to the game. Swede gave me the list of alumni and when we got back to Las Vegas I started working on it. I sent out an invitation to everyone in the area and followed up with phone calls hoping I would get enough people to fill a bus. I didn't get anybody. We ended up farming the kids out with our friends and LaRue and I drove to Tempe by ourselves. We were guests at a big reception for alumni, attended the game which we won, and had a great time.

A builder with a development across town had many new homes for rent. They were new, five bedrooms, low rent, and no lease obligation. The house we liked was off East Charleston at 5317 Del Rey. It was new and better neighborhood than we were in. We were not sure how long we would live there as we were having doubts about raising children in Las Vegas, but decided to make the move.

A month or so later I saw an ad in the professional magazine, Datamation, that caught my interest. Lawrence Radiation Laboratory (now known as Lawrence Livermore Laboratory) in Livermore, California was advertising for a special type of programmer. The Director's Office was specifically looking for a Fortran programmer to write programs analyzing financial cost and budget data using scientific computers. This sounded crazy as scientific computers and Fortran are not suited for this type of application.

Livermore had the world's fastest supercomputers for scientific work and was known as the most advanced supercomputer center in the world. Their policy was to acquire serial #1 of the fastest supercomputer available. They had just installed the first CDC 6600 designed by Seymour Cray, were getting the 2nd one, and preparing for the future CDC 7600 serial #1. They also had the one of a kind Livermore Advanced Research Computer (LARC) specially built by Univac, an IBM 7030 Stretch that was the first of only nine produced, and an older IBM 7090. Business applications ran at the Berkeley lab on a Burroughs computer. The Berkeley Lab could not or would not generate the close to real time information the Livermore Director's Office needed. Therefore, they decided to utilize the Livermore scientific computers. It was odd that they advertised outside for a programmer when they had some of the best in the world working there. I saw this a great opportunity to work on the largest supercomputers ever produced and pioneer new applications. It was an opportunity of a lifetime.

Before I graduated from Utah State I applied at the Livermore Lab and was told they could not employ relatives and my Uncle Fred worked there. I could now apply as he had left the lab and went to work elsewhere. I decided to send a resume and see what happens. They responded within a week and invited me for an interview. It was Thanksgiving week and we could drive up for the interview and spend Thanksgiving with Loa and Max, and the rest of the family in the bay area.

The interview went well, and an offer arrived shortly after we got back to Las Vegas. The lab would pay all moving expense. This was a unique opportunity to work on the world's fastest supercomputers and a challenge to develop what the Director's Office required. That and the fact Las Vegas was not a great place to raise a family made the decision to accept the offer quite easy. I hated to leave the people at EG&G, and my management tried hard to get me to stay.

I gave my notice and we were on our way to California. We quickly found a newly completed three-bedroom house in a new sub-division at 334 Coleen Street for \$19,800. With my VA loan and no down payment required we closed in about three days, and moved into the house a week before Christmas. What a whirlwind.

The lab is a super secret National Weapons Laboratory and for a change I didn't have to wait for a security clearance. My clearance came with me from Las Vegas. My office was in a single wide trailer between the Director's Office and the computer building . It was convenient for running back and forth.

The Livermore Lab was operated by the University of California and had a very loose

management style. People sort of worked and wandered around without a lot of supervision. Most of the technical staff had Masters and Doctorate degrees ,but you would never know it.

You never knew who might be eating lunch by you in the cafeteria. One day I was slurping my soup and across the table was Dr Edward Teller, the father of the H bomb, slurping his soup. I would see him often and he never talked to anybody. I guess he was thinking of atoms and designing nuclear devices.

In my new job I would be using the Fortran language, the programming language used by engineers and scientists. Fortran is the acronym for "formula translator". It scans math equations and translates them into computer instructions that the computer executes. Livermore developed their own version of Fortran with many extensions for handling bits and bytes that is the level the computer works in. Using their version of Fortran they developed their own operating system for any new supercomputer they acquired. It worked very well for them. It also worked for me in what I was about to undertake.

1966 - 1967

My first assignment was to plot cost versus budget data and predict the year end result. It was to be shown on a monthly 35mm color slide for each project at the lab. The input data would be the General Ledger magnetic tape produced on the Burroughs computer at the Berkeley Lab. The problem was the scientific computers couldn't read the Burroughs tape and recognize what it was. It expected scientific data represented in scientific notation. This was going to be a monumental challenge. I enjoyed going to the Berkeley Lab to pick up the magnetic tape as that is where I worked in 1961-1962.

After some experimentation I determined that I would have to read the magnetic tape in binary mode. This is the most basic level, resulting in zero's and one's, each called a bit. It took a lot of effort to transform the bits into useable form using the Fortran programming language. I would buffer the data from magnetic tape in groups of 60 bit words. Then extract 6 bits at a time to make up an alpha character or a number. When this was completed the data had to be sorted by project. There was no sort program on the scientific computers, I had to write my own sort program which I had done as a student at Utah State. Then it was scan for project identifiers, total up cost data, compare it to budget data, and generate plot data. You were either over or under for the month and year to date. Once I had the month by month data I needed a trend analysis to show the end of the year projection. This was plain old statistics that I had a degree in. I programmed a least-squares fit that I learned in statistics at Utah State.

The 35mm slides had to be in color and there was no color graphics capability at the time. Each line on the graph had to be a different color depending on whether it was under or over budget. I sorted the data by project and determined the color of the data line. Then I stored the data in the applicable color column with the number of the project in the upper corner. Then I sent each column by color in sequence to the black and white film processor. I would pick up the 35mm black and white film which was one strip for each color. I then had the graphics lab add

the proper color to the frames on that strip. Then I had them overlay the different color frames by matching numbers in the upper corner on one slide. When it was done there was one color slide for each project. The Director's Office loved it. All the project managers would convene in the conference room. On one slide they could see their performance month by month and where they would end up at the end of the year if they continued performing in the same manner. They could take correction action and next month see how they were doing. Before that they were flying by the seat of their pants. They usually ending up way over budget.

Due to the way the lab allocated computing budgets and computer time the scientists got the newest and best computer. I had to start programming and testing on the old Univac LARC and found it too slow. I got permission to move to the IBM 7090 computer and soon found it was too slow. Then I got permission to use the IBM 7030 Stretch and it wasn't much better. With the clout of the Director's Office I ended up on the new CDC 6600 and things started humming along the way I liked. It was gratifying to pull that one off. I loved the CDC 6600.

We liked Livermore. It was a small town with a cow town western atmosphere. The quaint little town of Pleasanton was about four miles east of us. I went through Air Force basic training near Pleasanton. The weather was hot in the summer but cooled down in the evenings when the wind came over the Hayward hills from the bay. Winters were moderate with rain and fog.

We lived in a new development and everyone was young families. The first year we were all busy putting in lawns, planting trees and shrubs, building backyard privacy fences, and pouring concrete patios. I planted a lemon tree, a miniature orange tree, and artichoke plants that had a hard time in the hot climate. Everybody worked like crazy all weekend. We were in our new house three or four months and discovered we were expecting and that was exciting.

Gary and Sue Robinson next to us were also expecting. Gary worked at the United Airlines maintenance base at San Francisco Airport.. When United Airlines received the first 747 delivered by Boeing, Gary took me over and we went through it. *(They stopped in Twin Falls a few years back and we had a good visit).*

Mel and Vicki Hambrick lived across the street and Mel worked for Pacific Gas and Electric in Livermore. *(We ran into Mel and Vicki in 2015 on our 48 day South Pacific cruise. They boarded in San Francisco and debarked in Sydney, Australia and we continued on. Were they ever shocked when LaRue asked them if they lived in Livermore on Coleen Street!)*

Dick and Marion Stolcis lived on the other side of us and were probably fifteen years older than us, and had a pre-teenage son. Dick was an instrument technician at the Lab and she was a nurse at the hospital. He was quiet and mysterious and she was nice and friendly. Our houses were close together. We were really surprised when Dick put up his TV antenna and ran a guy wire across and anchored it to our roof without saying a word!

(After we left Livermore we learned that their son was run over and killed by a freight train as he was jogging home along the railroad track. It was strange as there was a nice smooth

highway running parallel with the train track).

We would work in our yards all day on Saturday and Sunday. About 3pm Mel would be in his garage having a beer and wave me over. I tried to make it to 4pm. Mike and Gloria lived on the other side of the Robinson's. Mike was overweight, lazy, and didn't do much work. Mike would sit around and talk while I was trying to work and was a big distraction. I was laying brick for a planter in the front on a Saturday afternoon and I had to quit because of Mike as I couldn't concentrate.

Behind our house was a street and across was boot hill where the kids loved to play. Next to boot hill was the new Granada High School with tennis courts and olympic size pool. It was a very convenient location for us. The kids took swimming lessons there. They made the Livermore Aqua Cowboy Swim Team and practiced at the city pool. The team was AAU sanctioned and a very respected swim team in the East Bay. We spent a lot of time at swim meets in the bay area.

Big Ben Davidson, the defensive end for the Oakland Raiders, and family lived in Pleasanton and their two daughters were on the team. We had a team BBQ one evening and I was serving one steak per person as they came through the line. I plopped a steak on a plate without looking up and heard a gruff voice, "I'll have another one of those." I wasn't about to turn down Ben. He spent a lot of time waiting for his daughters after swim practice also.

LaRue joined the Junior Women's Club, was very involved, and held an office. She also took tennis lessons, played often, and even played in a tournament. I became active in the Golden Gate Chapter for Utah State alumni in the bay area. We had a large membership that took in the San Francisco area and the East Bay and I was elected Vice President.

After Julie was born I took LaRue's mom and dad back to Logan and went to the Utah State homecoming football game as an invited guest. I was introduced at half time and attended the alumni banquet as a guest of Swede Larson, the Alumni Director.

The Director's Office by now had decided to get into the information business on a larger scale and advertised for more people. A fast talker, that I will refer to as Chuck, showed up with the answer for everything. He had been an information specialist for the Air Force, on a system called the Formated File System (FFS). It would do everything the Director's Office needed at the wave of a hand and no programming was needed. Chuck would bring a copy of FFS with him. The Director's Office bought it hook, line, and sinker. Chuck arrived and brought his personal secretary. From what I observed, she was more than that. He also brought along a couple of female assistants. They were a close knit secretive bunch in the other end of the office trailer. Chuck and friends traveled widely and spent money freely. The FFS system did a great job for the Air Force in tracking parts, and what the Air Force does, but did not produce anything at the lab. Chuck's explanation was FFS just needed more time and money. Our group was in turmoil. I could see there was no future for me in my current job the way it was going in my second year at the lab.

I kept away from the FFS crew and picked up another interesting task. The manager for equipment maintenance needed a system to manage preventive maintenance for every piece of equipment at the lab. He was trying to do it with index cards and it was impossible. We hit it off and he proceeded to indoctrinate me in what he needed. I was given access to research projects within fenced compounds that was forbidden to everyone except those that worked there. I saw plutonium being machined and stuff for making the nuclear part of bombs. He said we needed to go to Los Alamos and see how they were doing the job. So, we flew to Albuquerque and caught a puddle jumper to Los Alamos on a high plateau about 50 miles out of Santa Fe.

The guy touring us around Los Alamos was in the first cadre of people that arrived for the Manhattan Project. We had dinner at his house, and he mesmerized us with tales of the old days. They worked nonstop during the war and for recreation they would drive to Santa Fe for drinks and dinner. Oppenheimer, the brains of it all, would go also. He liked his drink and liked to talk shop so there would be an FBI agent on each side of him for protection, and to make sure he didn't engage in "loose talk".

After Los Alamos we went to the Y-12 Plant in Oak Ridge, Tennessee to see how they do things. We stayed in an interesting Holiday Inn near the plant. Across the street was a fully visible drive inn movie screen. The sound track of the movie was piped to the radio in the room. If you wanted to watch the movie you opened your drapes and turned on the radio.

We went through some really sensitive places at Y-12 and saw machinists in space suits milling plutonium in a zero oxygen environment. When we departed we were told to never mention the size or shape of the things we had seen. All I can say is "we saw some big stuff" that took up an entire railroad car. We were told later that we never saw it. After our trips and evaluating the requirements I determined there was a system on the market that would do everything that was required. We bought a turn key system and was in business.

My friend (I can't remember his name) was then approached by the Port of San Francisco to come over and manage all port maintenance, which included Fisherman's Warf. It was a lucrative job and he took it and started recruiting me. I went over and we toured the piers and had lunch at Alioto's, which was comped. I could see it was a monumental job with a lot of perks. I would have open license to buy the computer I wanted and set up shop. It was tempting but the commute from Livermore was brutal, and we did not want to live in the City. I was also afraid I might fail. That was the end of that.

I began to watch the ads and saw that Union Oil Company needed programmers for overseas. I sent my resume and was asked to fly to Los Angeles for an interview. They responded with an offer and assignment in Tripoli, Libya in North Africa. LaRue was very pregnant at the time and there was a lot of turmoil in Libya. I decided it was no place to be and declined. Moamar Khadafi overthrew the government shortly afterwards ,and some Americans were killed.

The evening of October 25, 1966 we were attending a PTA meeting at the school and sat in the back of the room in case we had to leave. Sure enough LaRue said it's time to head for the hospital. LaRue's mom and dad had come down from Utah to help when the baby came so they were home with Kathleen and Brian. There was a hospital in Livermore about a half mile from us but we belonged to Kaiser Permanente. The nearest Kaiser hospital was in Walnut Creek. It was about 25 miles away and we made it without much time to spare. We had a baby girl a short time later, and named her Julie.

Sandia Livermore Lab was located across the street from the Lawrence Livermore Lab and looking for a systems programmer for their CDC 3600 scientific system. Sandia was operated by Bell Labs for the AEC with headquarters at Sandia Laboratory in New Mexico. Their mission was to take the basic nuclear weapon design that Lawrence Livermore or Los Alamos designed and package into a deliverable weapons system. From there the Y-12 Plant in Oak Ridge, Tennessee produced the weapon in quantity for the military.

On the Move Again

I decided to talk to Sandia and they were interested because of my systems programming experience at EG&G Las Vegas. They had gotten a government surplus CDC 3600 from Stanford Research Institute that had been in a flood. Therefore, it had problems and would crash several times a day. They needed someone to help with diagnosing and fixing problems and keep it running until they got a new computer in a few months. They offered me a job . I decided to accept in August 1967 and get out of the turmoil in our organization. Shortly after I departed the Directors Office put the boots to Chuck and his FFS crew.

With my termination money from the lab we splurged for our first color TV set. We belonged to a buyer's service with an outlet just south of the San Francisco airport and went over and picked up a 23-inch Zenith. It was really a treat to watch the Christmas shows and the New Year's Rose Bowl parade in color. No remote control in those days.

While driving by the Rambler dealer before Christmas I saw a new white 1967 Rambler Ambassador station wagon with a red bow on top of it in the showroom window. It was a beauty and I had to stop for a look. It had a 290 V8, automatic transmission, and a 3rd row seat. The 1964 Rambler was getting a little small for us and mom and dad and Bev were coming for Christmas. The larger vehicle would be nice, so I worked a trade on December 16, 1966. The purchase price on the 1967 Rambler Ambassador was \$4,399 and the trade in on the 1964 Rambler Classic was \$1,600.

We continued our tradition of pizza on Christmas Eve at Potters Pizza which we really liked. It was owned by a guy I worked with at the lab, Bob Bowers, and wife Laura. The original owner started it in an old house downtown and featured New Mexico style pizza. Bob and Laura bought it and named it Potters that was a family name. They would make a pizza any way we wanted. It was our favorite place to go. It was there that we started getting green chiles on our pizza. We went often and the kids thought they owned the place. Potters became so popular

they built a much larger place and moved.

1968

Sandia had great benefits with five weeks paid vacation per year. You were required to take three weeks and could sell back two weeks. They were very structured and organized compared to the Livermore Lab and was very well managed. There was very little attrition, so it was a difficult for an outsider to get hired. There were two job titles at Sandia. I was hired as a "Staff Member Technical" and the other title was "Staff Member Administrative".

I started to work as a systems programmer at Sandia on the CDC 3600. I joined Freddy who was a longtime employee and not too motivated. Due to the flood the computer had been in it was crashing often and nobody could find the problem. The hardware people blamed the software, and the software people blamed the hardware.

It was difficult to form a working relationship to find the problem. My goal was to find the problem and not blame the other side as had been the case. I needed something to study. When the system crashed I would capture a dump of the entire contents of memory on magnetic tape and print the contents. Then I would compare that to the printouts of the operating system. The memory printout would be about a foot high and the operating system was about four feet high in several binders. I spent hours, days, and weeks tracing through listings and comparing. It was not an easy comparison as the dump listing was all numbers and the system listing was alpha characters for the instruction and numbers for addresses and registers. An "add" instruction would be three numbers like "124" on the dump and in the system listing it was "add" in alpha characters followed by numbers. I had to be familiar with the numerical and alpha representation of all the computer instructions.

I found that when the system crashed it would be out of bounds of the program that was being executed. There was no way to trace how it happened. The next thing was to get a listing of the program that was executing when the crash occurred. Then look at the output it had generated up to that point. By looking at the output I could zero in on what the program might have been doing when the crash occurred. It was cat and mouse. I traced it to where the program jumped to a system routine in the operating system to perform a standard math operation which is common in solving an equation. One night I found where the computer got to a certain address to execute an instruction in one of these operations and jumped off into oblivion and crashed rather than take the correct path onward. I checked old memory dumps, and they showed the same thing. I had it down to an instruction where the crash situation initiated. It was a unique instruction that accomplished four tests to determine where it was to branch to. It did not transfer to where it was supposed to. And ceased

When I was sure I had it diagnosed I went to the hardware people and asked them to test the particular instruction when they ran preventive maintenance the next morning. They were dubious but ran the test and it failed. I removed the instruction from in the operating system and patched in four separate instructions to perform the task. The system was stable after that.

I went through the whole operating system and that was the only place that weird instruction was used. The instruction was not even needed as the normal programming protocol was to perform four instructions in sequence to decide the branch. The hardware designers thought a single instruction to perform all four branch decisions would be neat and they designed it into the hardware. This was the only CDC computer with that hardware instruction. Some software guy thought it was a neat instruction and used it. The system was now stable .

One of the engineers was transferred over to the Lawrence Lab to train on the newly arrived CDC 7600.

(Years later I was told the engineer told his fellow workers what a great job I did solving the problem at Sandia. One of those engineers was Larry Cook and in 1977 we both made the Control Data Shark Club, and were recognized at a big gala in Athens, Greece. He made the Shark Club as an engineer at Lawrence Livermore Lab and I made it as analyst for my work in Idaho Falls. Larry and I later worked together at CDC and ETA Systems, a CDC spin off. Larry and his wife Sharon stopped to visit us the summer of 2017. He related the story about his fellow engineer at the Livermore Lab heaping praise on me.)

(The CDC 3600 had a unique space age looking operator console. The console and CDC magnetic tape drives were often seen in space and technology movies. It is a thrill to see an old movie with those props. I spent a lot of hours at one of those consoles diagnosing problems)

After a competitive procurement and selection process Sandia awarded a contract for a CDC 6600. Meanwhile the current computer was loaded to capacity and more computer time was needed to handle the workload and prepare for the new computer. UC Berkeley had a compatible computer and an agreement was worked out to use it from midnight to 8am. I would accompany two operators to Berkeley each evening. We would load a couple of boxes of magnetic tapes into an old government Plymouth station wagon and go to Berkeley.

One morning we were loading our boxes into the Plymouth that was parked on the street in front of the computer building. The car was conspicuous since it was gray with government plates and had Atomic Energy Commission painted on the front doors. We heard a commotion up the street, and it was a large group of Vietnam war protesters running our way yelling something like "there's the war mongers". We jumped into the old Plymouth hoping it would start quickly as it had a habit of being balky on cold wet mornings. I hit the key and we were fortunate it started. We put distance between us and the protestors. We heard later they broke the windows and front door of the computer center. They were kept out of the computer room by the police. We went back the next night and the front door and windows were covered with plywood. We had been told to park in the back and use a back entrance. No more problems after that but we were always on the lookout for trouble. UC Berkeley was a crazy place in those days.

Some time later the protestors massed in Livermore and marched out East Avenue a couple of

miles to where Lawrence Livermore Lab and Sandia Lab are located. Nobody knew what would take place when they got to the labs. We were told to stay within the fenced compound and not leave. The police blocked them about a quarter of a mile away and they finally dispersed.

In preparation for the new computer a new underground computer room was constructed with copper lined walls. This was to prevent electronic emissions being transmitted and picked up outside. Sandia was working on highly secret weapons systems and Vietnam was going full blast. My security clearance was upgraded from the highest AEC Q (Top Secret) to an even higher level AEC Q Sensitive.

We got a briefing once on Sandia developed detection devices that were dropped on the Ho Chi Mien Trail. That is about all we were ever told on what was happening at Sandia. Sandia also operated a test range near Tonopah, Nevada and on Monday morning scientists would board a plane at the Livermore airport and come back Friday evening. We never knew what went on at the test range at Tonopah.

The new CDC 6600 was delivered. I was the lead systems programmer and responsible for the acceptance tests. The tests were to wring out the system and ensure that it would perform at a certain system availability for thirty consecutive days. It passed and the system was accepted.

I made a few trips to Sandia in Albuquerque to run work and tests on their CDC 6600 system to make sure it produced the same results as ours. It required carrying a few magnetic tapes that would fit in my satchel brief case. The tapes contained classified material that I would sign for as I departed Sandia and headed for the San Francisco Airport. I was instructed that my brief case had to be with me at all times, and nobody was to open it or take it away from me (*just think about that in today's world*). I was also briefed that there could be listening devices in the hotel room. There was precedent for this. It was the same hotel in the White Winrock Center that was involved in the famous WW2 spy case and the Los Alamos Lab. The husband and wife team were eventually caught and executed.

I enjoyed the trips to Albuquerque because of the good New Mexico style Mexican food and I came to love chile rellenos. I would even have one at the airport before I boarded my plane back to San Francisco. My brief case would be empty for my return trip so I would pick up a couple bottles of booze as it was a fraction of the price in New Mexico compared to California. On one trip I came down with the flu and stayed in bed for several days before I could fly back home. I thought I was going to die. Someone from Sandia came by a couple of times to see if I was going to make it.

Landings in San Francisco always made me nervous because of the wind coming off the bay, the rain, fog, and the final approach from the South over water. I would tell myself that nobody has ever landed in the water before reaching the runway. Then a Japan Air DC-8 landed short and in the bay.

My brother Garry was in the army stationed in Georgia and his unit was ordered to Vietnam. He phoned and said they would be flying into San Francisco on a Delta charter and would then go to Vietnam by troop ship. We went to the airport and saw the plane park on the tarmac. The soldiers came down the stairs onto the tarmac carrying rifles and combat gear, which was a sobering sight for us. We met for a few minutes in the baggage area before he was off to eventually catch a troop ship. He spent a year in Vietnam and was fortunate to be in a Headquarters unit. He said only a few bullets whizzed by his jeep. When he came back and discharged he stayed with us for a while.

One night I was working at Sandia on the problem we were having with the computer crashing and LaRue called. She said Garry was in jail and needed bailed out. I went to the jail and found he had been out on the town and decided he shouldn't drive. He got in the back seat of his car to sleep. An officer came by and arrested him for "being drunk in public" and hauled him in. I didn't have any money on me to post bail, and he needed more sleep anyway. I told them to keep him. I went to the hearing that morning and the judge let him go. I don't remember any fine.

(A highlight visiting the old town jail is that I saw a famous light bulb that has been turned on and glowing since the very early 1900's. I recently saw on "Mysteries of the Museum" that the light bulb is still glowing)

A summer activity we enjoyed very much was to camp at Pinecrest Lake 120 miles east of Livermore in the Sierra's. For years Loa and Max and friends would spend a couple of weeks a year vacationing there. We would join them and stay in our tent and Max and Loa had a new 18-foot trailer. Ross and Marion would come with a tear drop trailer and he would build a canvas city around it. Family friends, Gordon and Lois, would be there with their big trailer and two couples that were family friends living in San Francisco would come with tents. It was quite a gathering. I would spend the weekend and drive back on Monday morning to work and go back up Friday evening. It was nice to leave the 100 degree valley heat and climb up into the cool Sierra Mountains and smell the pine trees and campfires. We noticed how nice it was in Max and Loa's trailer and began thinking about owning a small trailer.

On January 13, 1968 we found a new 17-foot Nomad Golden Falcon single axle trailer at Jones Trailer Sales in Concord and bought it for \$2,475. The dealer installed a load leveler hitch, brake controller, and wiring on our new Rambler Ambassador and we were trailer owners. Loa and Max gave us a set of short Texasware drink glasses for martinis and suggested we keep a log of our trailer trips. I have maintained a record across two log books. It is now in parallel on an Excel spreadsheet "our-rvtravel" on the computer. The computer version totals miles towed and nights spent by year in each rig we have owned. The drink glasses are still in use.

The first excursion was in January 1968 on a shakedown trip to Sunset Dunes beach south of San Jose. Ross and family were there when we arrived. He had their tear drop trailer and canvas city all set up and he was sitting in the rain in his rain gear drinking a beer. Quite a sight that was. They brought a couple of neighbor kids. Along with their five it was a chore that had

him ready for a beer or two. We pulled off the road onto the sand by Ross and set up. Max and Loa and family arrived later as well as family friends Dee and Therese from South San Francisco. Dee didn't put up their tent until evening after he had a lot to drink and the tent collapsed during the night and it was raining. Regardless, everyone had a lot of fun.

Our trailer had a pressurized water tank that I filled before we left home. I ran the pump to a pressure of 80 pounds and turned on the water. It ran a little and stopped. I put more pressure in the tank and still no water. I decided to crawl under the trailer and turn the drain valve to see if any water would come out. I turned the valve and with about 120 pound's pressure in the tank the water blasted the sand. I got covered with wet sand from head to foot. LaRue and the kids had a good laugh. We had water in the tank alright. We made do that weekend with no water coming through the faucets.

The trailer had a new toilet that had just come on the market. It was a Monomatic brand and the salesman said it was just like those in the airliners. You start with two gallons of water and add a package of dark blue powder. When you flush the toilet it circulates blue water and it "grinds up whatever you put in the toilet" according to the salesman.

The weekend was over and I thought I would pull the drain on the back and empty the Monomatic toilet since it was supposed to be harmless blue water. I pulled the valve and out came the real stuff just as it went in and blue water. I was horrified and quickly closed the valve, but a lot had been dumped on the sand. The people that had pulled in behind us waiting for our spot were not in a good mood either. I got my shovel and covered it over and we got out of there. The salesman had oversold the Monomatic. It didn't grind anything. It only circulated blue water. The weekend was a real indoctrination into trailering.

I took the trailer back to the dealer in Concord which was about 35 miles from Livermore and left it. It turned out that the tank installer had pushed the plastic plug into the tank instead of removing it. Pressure in the tank caused the plug to seal off the water outlet.

I got the trailer home and found the pig tail from the trailer to the car was fried and had to take it back to the dealer again for a new pig tail. Later it happened again. I got under the car and found a bare spot on a wire that was shorting out and fixed it myself. The dealer gave me another pig tail.

We talked to an old couple that were out walking behind our place. They were the O'malleys and lived behind Granada High School on about two acres. We became friends and they let us park our trailer behind their house. We wouldn't have it in our driveway all the time. He was a pilot in WW1. He retired from a hardware store in Oakland and he had lots of tools and stuff that I could use. He passed away while we were in Livermore, but we continued to visit her.

We saw a notice in the local paper that a new camping club was being organized. We went to the charter meeting and joined the new chapter of the National Campers and Hikers Association (NCHA), and named ourselves "The Camperos". We had around twenty families and would

have a monthly campout from March through October. Each month we would designate a wagon master that would choose the location and make the arrangements.

Once a year we conducted a litter pickup on a highway. It was a lot of fun and we went to places we didn't know about, and with people from all walks of life and ages. People our age were not quite into trailering yet. I agreed to publish a monthly newsletter and purchased a portable typewriter and a used mimeograph machine. Each month I tried to print something amusing or eye catching and was even reprinted in the national NCHA newsletter a couple of times.

The summer of 1968 we started our vacation by pulling our trailer to Red Fish Lake near Stanley for a rendezvous with mom and dad and Bev as they also had a new travel trailer. On our way over Donner summit I looked in the backseat to see what the commotion was back there. The kids were on the floor. Wilson had the backseat and wouldn't let them have any of it.

We spent a night in Donner State Park and again in Jackpot, Nevada. Arriving at Red Fish Lake we found a campsite in the Mt Heyburn campground. The folks pulled in a short time later and got a campsite across from us. We enjoyed Redfish and camping among the small lodge pole pine trees was sure different than we were used to in the tall forests in California. The folks had to return to Kellogg, so we all went to Patterson to camp a night for old times sake.

On the way we stopped in Clayton for a break. When we got to Challis we were missing Wilson. We had to backtrack thirty miles to Clayton and found him sitting in front of the store waiting. The store owners said Wilson would have nothing to do with them. After a night camped on Patterson Creek the folks left for home. Bev continued on with us and would fly home later in the summer.

We went back through Stanley and then rough gravel road to Lowman then Boise, and then Uncle Donald and Mary's place out of Ontario. From Ontario we went across central Oregon to the coast and headed south along the coast camping along the way. We especially remember Bandon, Oregon where we had fresh fish and chips in a small cafe. The owner had just picked up the fish at the Bandon pier. We liked it so much we returned the next year. When we got back to Livermore we had been on the road fourteen days and traveled 2,627 miles.

Our dog, Wilson was a man about town. He would open the garage door, take off, and do whatever he wanted to do. One evening a man came to the door and wanted to know if we were Wilson's parents. He said Wilson had gotten into his backyard and molested his German Shepard. It started LaRue laughing since Wilson was a small dog. Anyway, he was not happy. A short time later Wilson got away and was never seen again. There was no trace of Wilson anywhere and we suspect that guy or someone else did him in.

While Wilson was around he caused all kinds of trouble. After Julie was born we would put the basinette in the back seat when we were going somewhere. We would go out to get in the car

and Wilson would be in the basinette that was all nice and clean for the baby.

We had another pet. LaRue's niece Maxine and husband Dick were getting a divorce and had a Siamese cat named Mitsu. Maxine needed to find a home for Mitsu so we took her. We had her until we were transferred to Switzerland in 1977. Maxine and Dick by then had remarried so we shipped Mitsu back to them.

We got a lead on some early American furniture that people in Walnut Creek were selling. We bought a nice wooden rocking chair and a couple other items. There was not room for the rocker in the station wagon, so I tied it on the roof rack of the station wagon. We got home, and I got out to open the garage door and left the car door open. Wilson came roaring out of the garage and jumped into the car and was all over everybody. I was mad at Wilson and jumped in the car and drove into the garage. The wooden rocking chair did not survive. We just sat there as wooden pieces fell on the garage floor. I gathered it up for the garbage truck to pick up the next day. However, in the morning I went out and gathered up the pieces and glued it back together, and it lasted a lot of years.

(We ran into our former neighbors, Mel and Vicki on our South Pacific cruise in 2014. The first thing that Mel said after he recognized us was, "I remember the time you drove in the garage with the chair on top of the car".)

1969

The summer of 1969 we took a three week vacation towing the trailer. We went to LaRue's parents in Providence, Utah then up to Salmon where we parked at our friends, Grant and Carol Haveman's place. From there we met my folks at a campground near St. Regis, Montana and then went to Kellogg and Couer d'Alene then across the border to Canada.

At Grand Forks, Canada we went East and stopped for lunch at a roadside stop. We had lunch in the trailer and when I went out I looked up in the tree by the door and there was a bear up there. I slammed the door closed and the bear came down the tree and went over to a couple eating at a table and took their lunch.

We continued to Vancouver and a side trip to Victoria then down through Seattle to the Oregon coast where we were last year. We stopped at the small cafe in Bandon, Oregon and had fish and chips again that we liked so well the year before.

We spent a night at Lake Shasta and it was so hot we couldn't sleep. I filled the car at a small gas station at the lake and apparently got some bad gas. Near Red Bluff, California it was not running well. A garage couldn't find anything to fix, so we continued on. After filling the tank again all was well. We were gone three weeks, pulled the trailer 3,267 miles and drove a total of 3,892 miles. Campgrounds on the trip ran no more than \$2.50 per night.

I had no trouble backing the trailer into tight spaces the whole trip. We got home on a Sunday

and it was a struggle getting the trailer backed in. The neighbor watching from across the street was a truck driver and that added to my anxiety. I finally got it parked.

That night we sat on the patio with the TV in the door and watched Neil Armstrong walk on the moon. Monday was declared a holiday, and we had an extra day of vacation.

I was a big fan of the Oakland Raiders and the Oakland A's when they moved to Oakland from Philadelphia. The Raider's coach John Madden and family lived in Pleasanton. His wife owned a small bar on the main street of Pleasanton and would sponsor bus trips to games. Uncle Fred and I did a game trip from her bar, and one sponsored by a bar in Livermore. In those days you could roam all over the stadium and at a New York Jets game I was behind the Jets bench tormenting Joe Namath. He would just smile at me and go in and throw another touchdown. He was the coolest guy I ever saw. I also saw great games against Kansas City, Pittsburgh, and a Monday night game against the Redskins.

I attended my first major league baseball game one evening with some of my Sandia co workers. We had great seats behind home plate and the opposition was the Minnesota Twins. Harmon Killebrew, an Idaho boy, was playing first base. Jim "Catfish" Hunter was pitching for the A's. I thought the game was rather boring as the Twin's could do nothing, and the fans were cheering like crazy. I didn't realize until late in the game that "Catfish" was pitching a perfect game. It was the 8th perfect game in baseball. It doesn't get much better than that.

By mid 1969 the new CDC 6600 computer was performing well, and I was not faced with any challenge or learning anything new. I began to worry about getting the same one year of experience over and over. I interfaced almost daily with my CDC counterpart, Roger Martin, that worked out of the local CDC sales office about a half mile down the road. We hit it off and he was also a graduate of Utah State, so we had a lot in common. He liked the challenge of working in a sales support environment with both labs as well as other installations in the bay area. He started working on me to come to work for CDC and it was beginning to get very tempting.

One day over coffee Roger passed on that CDC was opening two new positions in the local sales office for analysts. The job would be to learn and support the newest supercomputer, the CDC 7600 serial #1 that had just been installed at the Lawrence Livermore Lab. He thought I would be a good fit and he wanted to recommend me to his management. I figured it would not hurt to find out.

CDC had a regional sales office in San Jose and I was called over for an interview. It went well but there was reluctance about hiring people away from one of their customers. Therefore, I didn't think anything would happen. A couple of months went by and Roger told me an offer was on its way. Wow, decision time coming up. I loved the benefits at Sandia, especially five weeks vacation per year. However, the job was no longer challenging, and there was no advancement opportunity. I decided to give notice and accept the CDC offer in December 1969. I didn't burn any bridges and was told that I could come back anytime.

end chapter 5