Chapter 2

Michigan State

As you can see from my high school report cards, I had close to the top grades in a not-very-competitive environment. I was obviously not competing for top grades, other than to be competitive with my classmates Tom Haley and Jack McCall. It was with some surprise when I was notified that I had won a scholarship to Michigan State College. The scholarship paid my tuition for all four years. Only later did I realize that one scholarship was given to each high school in the state of Michigan, and that I was the only student at Ithaca to have expressed interest in going to Michigan State.

My dad told me that they could afford to pay room and board for my freshman year, but that I was expected to earn enough by working during the summers to take care of each of the next three years. By this time, my sisters were out of college and married, and I was the only academic expense.

Michigan State was the only college that I applied to, and as I remember it, I was quickly notified that I was accepted.

In September 1950, my mom and dad drove me down to Michigan State, where we had been directed to go to a large new dormitory called Snyder Phillips. There was a list of rooms and students assigned to the rooms, and there I was. There was no formal ceremony, just move-in. The entire freshman class, some 3,000 of us were formerly welcomed in a large auditorium.

Michigan State College

My father's generation was the first in our family to go to college. Dad and his brother, Lester, went to Michigan Agricultural College and Aunt Yula went to a normal college, a two-year teaching college. Since my sisters had both gone to Michigan State, it was assumed that I would go there also. The scholarship was a bonus.

The first thing that we did in the academic world at Michigan State was to take a series of 10 tests on a variety of subjects from mathematics to history and English. These were given to determine the level of scholarship of incoming students since the high schools varied significantly from one part of the state to another. I was an eager beaver and scored in the top tenth percentile on each test. They obviously were not too demanding.

During my freshman year there were a series of required courses that could be passed by merely taking an exam. This meant not having to go to class. I loved this program and got out of three or four classes by taking my comprehensive exam for that class.

I remember having no real interest in grades other than that they were good enough to enable me to get into the physics department. I think I had a B average in this preliminary courses. The first two quarters of class were intended to be basic college education. I managed to work in volleyball and swimming although I do not understand how I managed to get

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a C grade in volleyball. I passed the compulsory swimming course, requiring only that you swim back and forth the length of the pool. I also found that I had the option of taking a comprehensive exam and not bothering to attend class. I did a good bit of that. The physics department classroom building was right across the road from the dormitories, but the laboratories were in temporary buildings at the other end of the campus. We got a bit of exercise getting from one to the other in time.

My Spring Term Problem

I came down with chicken-pox. It was serious enough to leave me unconscious for a couple days and apparently cause a retinal detachment. I was referred from the Michigan State college medical facility to the University of Michigan hospital for a repair of a retinal detachment. I returned to Michigan State that fall after missing the spring term.

In retrospect, the operation was theoretically interesting. It required cauterizing a spot on the back of the eyeball. To enable this, one of the muscles was cut in the eyeball and it was rolled around to expose the rear of it. After the cauterization, the muscle was sewn back and the eye was restored to looking forward. I am probably one of the few people who have seen the inside of my skull.

As you can see from the transcript, my grades wandered along sort of a B+ average. I got good grades in the sciences and started my endless goal to learn to speak German. I officially transferred to the physics department in the fall of 1952. I chose physics over engineering because physics allowed two elective courses whereas engineering had none. I remember one of my electives was social dancing.

Since Michigan State was a land-grant college, all male students were required to take one year of ROTC, the reserve officers training course. We were issued uniforms and spent afternoons learning to march around campus staying in formation. I think I was a corporal directing some serious marching before I managed to get out of ROTC completely.

Our dormitory, Snyder-Phillips, was relatively new and the students assigned to the dormitory were among the later ones to register. This included a large number of athletes. I had several very large football players living a couple of doors down the hall.

I eventually got a job in the dormitory cafeteria washing pots and pans. This paid me ten cents an hour more than I was paid working in the cafeteria service area. I also found a job serving ice cream behind the soda counter in the basement lunchroom.

My parents had paid my room and board for the first year, but it was my obligation to earn spending money while I was in school, as well as to get a job during the summer to help pay the expenses for the following years. I also was soon employed tutoring two football players. They both were normally smart guys, but were usually physically beaten up after their afternoon practice. Neither flunked out, so I guess I helped. During summer vacations I got a job at a house-trailer manufacturing plant in the adjacent town of Alma. Redmond Trailer ran a three-shift manufacturing company The regular shift was from eight o'clock in the morning until four in the afternoon. The swing shift was from four in the afternoon until midnight, the night shift was from midnight until eight the next morning. I was employed at the night shift. Bob Brown was also employed at the night shift, and several of us from Ithaca drove to Alma for the job each night.

We very seldom managed to get any sleep in the evening before we left a little after 11 to get to work. We seem to have normally come home around 8:30 in the morning and crashed. This was my first real job with a specific responsibility on the assembly line as well as a regular paycheck. My specific job was to assemble the front and the back wooden end sections of each trailer These were then attached to the trailer frames as they went down the assembly line.

When I first started, the factory was producing 12 short trailers per shift. This meant I had to manufacture, or assemble 12 backs and 12 fronts. Being eager and having some experience in carpentry, I managed to not only keep up with the production rate but also have one day's reserve assembled. The regular full-time workers were not overlyimpressed with my enthusiasm.

One day I realized that the next trailer frame coming through was their extra long version. They only manufactured three of these a day. Suddenly, I had almost a week's worth of fronts and backs assembled and had to spend the next several days making sure no one noticed I had nothing to do, forget fired. I managed to stay out of sight of my supervisors. I did not get fired and learned to slow down my carpentry so I always seemed be too busy. This was my first experience working with regularly paid full-time, not hurrying, employees.

Our Ithaca work crew spent a fair number of afternoons, after working all night, either swimming in the local gravel pit or bowling in the local bowling alley. The bowling alley was on the second floor above the IGA store in Ithaca. The bowling alley had what they called "semi automatic pin setters." We had to pick up the downed pins from the pit behind the pins and put them in the rack so that when we pulled the rack down, we reset a new 10 pins for the next bowler.

We did not get paid by the hour, but were paid by the number of games that bowlers paid for. During the afternoons, both after school, and in the summers there were few bowlers, and so we alternated bowling and setting the pins for each other. We got reasonably good.

The real pin boy work was at night during the businessman's bowling league, where all eight alleys were busy. It took a reasonable effort to have the pins set for the next bowler. I remember occasions where I was in the pit behind the pins picking up the downed pins from the bowler's first shot, and realized he was not waiting for his bowling ball to come back, but decided to roll a second ball quickly after the first. This trained us to either get out of the way of trouble quickly or get hurt. Luckily, you could hear the ball rolling towards you. The summer months went by in a blur, probably because we got very little sleep.

Back to Michigan State Memories

I met some new people from outside of Ithaca at Michigan State. One new friend was from a town in the upper peninsula called Ironwood. A bunch of us got talked into a road trip to his town and into staying with his folks, primarily because of his description of a wild town called Hurley, Wisconsin. This is actually a suburb of Ironwood, but it is just across the Michigan State border with Wisconsin. He claimed that Hurley had bordellos and a red light district. He said that it was never policed because it was so far from any large town in Wisconsin. We indeed made the drive and indeed drove around Hurley. It turned out to be a very run-down section of Ironwood that had many saloons and bars, but we jointly decided that they looked too dangerous for a bunch of college kids.

Michigan State was on a quarterly system, and after the first two quarters of my freshman year, as I mentioned, I managed to get chickenpox. I have no idea where or how but I ended up in the University Hospital, unconscious for a day or so. I also suffered a retinal detachment during this time, and missed the spring quarter. I went back for my sophomore year not much the worse for wear.

My sophomore year was as a physics major. The physics department classrooms were directly across the street from our dormitories. I wonder if I chose physics for that reason.





My sophomore year was mostly chemistry, math and physics. The classes were mostly male with one or two exceptions.

There were very few girls in the science department and one had a last name that also started with P and so we sat next to each other in several classes. Her father was an executive with the Chevrolet division of General Motors. My female classmate invited me to a weekend at her house in new Detroit. It was more an estate than a house. It was much larger than anything in Ithaca

Chevrolet was about to introduce a new version of the Corvette convertible with a large truck engine and more power. Her father asked me if I would like to try driving it, and I of course said "yes." I was driving with my date and her father also in the car. He directed me to a long, straight road going uphill. He challenged me to test the full acceleration of the car up the hill. We were doing well over 100 miles an hour when I chickened out. She and I dated occasionally after that, and went to a prom but drifted apart. Neither one of us was



ready for anything serious. I have one other prom picture from Michigan State, demonstrating that I kept the same hairstyle. There were an amazing number of goodlooking girls at Michigan State. I joined Alpha Chi Sigma, the chemical professional fraternity at the beginning of my sophomore year, but did not move into the fraternity house until my junior year. Michigan State was a coeducational college and dating was relatively informal and fun. Our

fraternity house was a couple blocks off campus and was a three-story rambling house with a large screened-in porch used as a sleeping room. It had about 20 bunk-beds with heated blankets. We had a house mother, who supervised things and hired the cook and set the menu. It was considered bad form to unplug somebody's electric blanket on the sleeping porch late at night.

College life in the fraternity house was considerably different from University organized housing and cafeteria meals at the dormitory. The fraternity house also had a parking lot in the backyard so I bought my first car. I remember it as a used Plymouth sedan.

We were not allowed to have women in our rooms at the fraternity house and I remember running an extension cord from the house to the car and loaning the car no to fellow fraternity brothers for dating.

The extension cord was plugged in the outlet in the house that was normally used for the freezer. This worked unless someone forgot to



plug the freezer back in. I remember it was a fraternity brother named Bob Hill who got in a bit of trouble with the house mother for forgetting to replug the freezer.

We remodeled the basement of the house and I assisted with some of the wiring. The room was much improved. When the fraternity house caught fire a few years later, I was glad to hear that the source had been traced to the kitchen.

The fraternity members were all scientists of one kind or another and so the atmosphere, as well as the fraternity initiation, was academic and nerdy. I fit in well!!

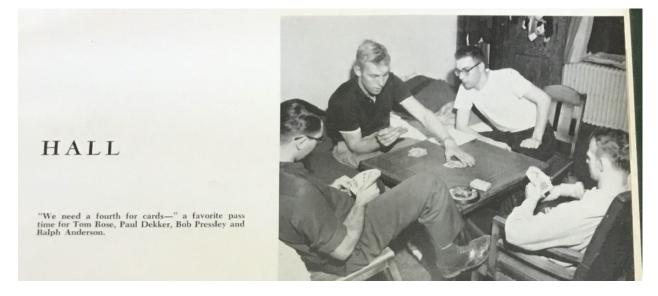
Michigan State was a dry campus, even though the state of Michigan had a legal drinking age of 18. The girls in the dormitories had to be inside by 11 o'clock at night. An occasional activity of the guys was to walk the mile or so to the county line and a small bar where drinking was legal. I remember they also had really good jazz combos. The philosophy at Michigan State seems to be that if the girls are safe in the dormitory, the guys will not get in real trouble.

My football buddies were always up for a good time and looking for a friendly bar. I remember borrowing my sister's car from her one weekend. She lived in Lansing; I drove my football buddies to a far larger bar somewhere near East Lansing. I seem to remember standing on a table and saying that our table can lick any other table in the bar. I remember there were no takers, as my three football player friends averaged 280 pounds each.

It was at Michigan State that I met my first black individuals. Michigan State had recruited two football players for their team from somewhere in the South. They were both left halfbacks. One, named Roy Bolden, went on to play in the professional leagues. I think at the time I wondered what it was about black football players that they could only play left half-back.

Michigan State was a football powerhouse during the time I was there, losing only one or two games the first two years, and going undefeated my junior year, and winning the Rose Bowl that year. After a winning season, here I am playing some kind of a card game with a couple of starting football players. I am the smaller one looking on this hand.

After a big football win. There was often a large bonfire in the middle of one of the East Lansing streets. I remember



participating, and probably encouraging my large friends, but never being an identifiable leader.

My junior year, when Michigan State won the Big Ten championship. Three other guys and I decided to drive to the Rose Bowl. Somehow we managed to borrow a brand-new Olds '88 convertible from one of the guy's brother. We drove out from Lansing South to pick up route 66, which we took across the country. We alternated drivers and stayed in a couple of cheap motels on the way. My memories of the trip are fairly blurred except for the time a rear tire blew out at high speed. Luckily, the car settled nicely and we changed the tire.

We had nowhere to stay in Pasadena, but we knew a trainload of Michigan State supporters had arrived that were in the hotels there. They had booked a trip that had daily tours to various scenic spots around Pasadena in the few days before the Rose Bowl. As I remember it, we crashed in a couple of their rooms after they had taken off for the day's tour. Somehow, we were never thrown out.

We went to the Rose Bowl parade and then on to the game. Michigan State staged a comeback in the second half and won. We had a major celebration near the hotel and I remember snake dancing through the streets with a thousand or so students.

We had to be back at Michigan State two days after the Rose Bowl game to register for the spring quarter. We drove 2,400 miles in 48 hours switching drivers and sleeping in the back seat. Crazy, but we were young.

But back to class work at Michigan State as you can see in the transcript below, I took almost all scientific classes the last two years, with the exception of German which I plainly struggle through. I did get an "A" in social dancing!

Having lost one quarter of classes in my freshman year, I did not have enough credits to graduate in the 1954 spring. I signed up for three summer school classes to make up for the deficiency. I had already agreed to take a job at RCA labs, so I merely had to get the credits and graduate.

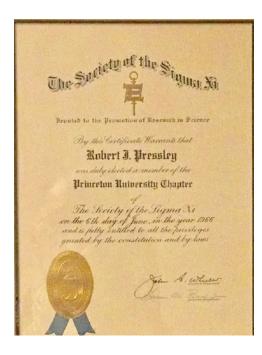
I got my best grade in World Communism, and I barely survived my last physics lab course.

The chemistry fraternity affiliation really proved useful when I took a summer job with a technical company in Minneapolis-St. Paul between my junior and senior years. I was able to live rent-free at our fraternity's chapter house there. There were about 10 fraternity members living there, and since some of them were full-time students and had contacts, I was able to

join the dating world fairly easily. I remember a series of dances and outdoor picnics near the river. It was a measure of how employable physics majors were in the year after the Russians launched the Sputnik satellite that I had several offers of summer jobs between my junior and senior year.

But back to Michigan State studies, by my sophomore year I was a physics major and taking the majority of my courses in the physics building right across the street from the dormitory. The math part of physics was easy for me and I was elected to Sigma Xi, a math honorary society. It was basically a bunch of nerds, except for the girl from Detroit. This Sigma Xe award carried over to Princeton.

The senior physics professor at the Department was a Dr.



Hause. His specialty was spectroscopy and the department had a very large grating spectroscope on which we did an occasional experiment, or on which he did a demonstration. I completed all my undergraduate physics and engineering courses at the end of the fourth year, but I did not have enough nonscientific courses.

I completed this requirement in a six-week summer session, taking one physics course, one course in

Russian history, and something else I don't remember. I spent most of the time at Lake Lansing enjoying the beach. The physics course was an experimental project in crystal growth. I put the appropriate materials in the water environment in a test tube and figured that as the water evaporated the crystal would grow. After I set it up, I think I checked on the

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experiment twice in the six weeks. The results were fairly poor. The water had evaporated as I expected and the supersaturated solution had multiple little crystals. A fairly miserable result.

At a meeting with Dr. Hause to get my grade, he pointed out that the experiment was basically a failure and he should flunk me. I believe he gave me a D. He said that the only reason he didn't flunk me was because if he did, I would be back. So I graduated a little late. He recommended that I never consider graduate school, but get a job. At least I did graduate. I had four job offers in various parts of the country and I chose to go with RCA labs. The salary offers were all about the same, but the East Coast and the town of Princeton seemed very attractive.

It worked out incredibly well!

