

**Kenneth B. Goldblum** (PhD, ChE, 1939; MS, ChE, 1935; BChE, 1932) I was born in Minneapolis in 1912 in an apartment building that was built by, and owned by, my paternal grandmother who lived around the corner. I was delivered by Dr. George J. Gordon, who brought about 3500 or more Jewish children, including my wife, into the world, and eventually set about educating them in a Jewish school, the Minneapolis Talmud Torah. Most of my life, until I was married in 1936, was lived on the North side Homewood section of Minneapolis where about 12,000 Jews lived. We only had one non-Jewish family on Upton Avenue N, and had good relations with them! I attended Lincoln School, Lincoln Junior High, and North High School. I graduated from North High in January 1927, fourth highest in a class of nearly 500 pupils. I enrolled in the University of Minnesota the same year, just before my 17<sup>th</sup> birthday. I thought that architecture would be a good field, until I took a course in organic chemistry from Professor Lillian Cohen (who was related to us on my father's side). I enjoyed her classes so much that I decided to take more chemistry, but because I loved mathematics from the seventh grad on, I joined the two fields by taking chemical engineering. There I did well, and was always first or second in marks in my class. I did have some trouble from Professor Cohen. She complained to my father that I hardly ever came to her office while I was taking her course. I explained to Dad that several members of the class knew that we were related, and I did not wish to have them get the idea that I had to see her to get good marks. Since the period was during the Great Depression, and jobs were very scarce, aside from the anti-Semitic feeling which was very prevalent then, I stayed on at the University of Minnesota after getting a BChE in 1932, and a Masters in 1935. During this time, I made the lasting acquaintance of Adelle Brochin, and we were married in 1936. Adelle was studying for a degree in social work, but she decided to find out something about chemistry and took a course in inorganic chemistry from Lillian Cohen. I can recall going into one of the labs to see Adelle one day only to hear Professor Cohen call out loud to me, "We do not allow love making in the laboratory!" We were both embarrassed, but, of course, pardoned Professor Cohen, and even invited her to our wedding.

After we were married, Adelle would join me of an evening in the lab for a meal. One night, Professor George Montillon came in as we were preparing hot dogs in a large beaker. His comment was "I wish I could get my wife to do that. I could get a lot more lab work done then." We all had a good laugh.

In late 1939, as I was getting my PhD in chemical engineering, I was interviewed by a GE recruiter and offered a job in Pittsfield, MA, which was accepted. We were to head for Pittsfield at the end of January after Adelle's older sister, Ida, was to be married. At the time, we had a little Willis car that we packed full of our belongings and we set out one cold winter day to drive to Pittsfield. As I think back on this, we were very fortunate that all went well because we seemed to have a snowstorm ahead of us all the way. Once a snow plow came by going west and nearly covered us and our little car completely. On the night of the third day, we stayed with a cousin of mine in Scotia, NY. Her husband, Murray Sprung, was a research chemist in the GE Research Lab in Schenectady, NY. The next day we drove into Pittsfield. As we approached the city, a police car signaled us to stop. I brought our loaded car to a stop very gingerly and asked the patrolman what I was stopped for. He

declared that I had driven over a white line in the center of the highway and that this was illegal in Massachusetts. I then pointed out to him that the "white line" was covered with snow!! He then told me that he would excuse this transgression, but that I should be very careful from now on. I thanked him and drove into Pittsfield. There we reached an intersection and turned right. Before long, we realized that we were out of town. We turned back and soon had our first view of downtown Pittsfield. We then looked for a room for the night until we could get our bearings. We had several names to call. These came from a friend in Minneapolis who had become a Rabbi and had served a congregation in Pittsfield for a number of years, and then moved to another location. The people we called were exceedingly helpful and we rented a nice upstairs apartment quickly.

On my first day at GE, I met the lab head, Dr. Frank D'Alelio and the rest of his staff, about eight people. I was given my first assignment: to study the reaction of phenol and formaldehyde using basic and acidic catalysts, and to work on the curing of these materials under various conditions.

Before I continue with my work at GE, I want to go back to some of my training while yet in Minneapolis. When I was four and one-half years old, my parents enrolled me in the Minneapolis Talmud Torah to get a good Jewish education. This school was started in 1895 by far-sighted members of the Jewish community, one of whom was my mother's oldest brother, Abraham Bearman. A school was started with the very best Hebrew teachers available and with a broad view of American life added in. In the early 1900's, a building was erected on the corner of Fremont and 8<sup>th</sup> Avenues North, which had not only fine, well-lighted and airy classrooms, but a gymnasium for basketball and a large swimming pool. The teachers were progressive and innovative. The teacher of the first class was Mr. Jacob Kass, who had a closet at the front of the room filled with little figures of humans and animals, various pieces of furniture, all doll-sized. He would take these out of the closet and give us their Hebrew names and have us repeat these words three or four times until we learned them. He used no English at all and spoke to us only in Hebrew. It was not very long before we could speak Hebrew, admittedly a bit haltingly, but improving with time. Mr. Kass was teaching us Hebrew in very much the way we learned English in our homes!

This school had three departments: elementary - first through eighth grades; high school - ninth through twelfth grades; and collegiate - three more years. Both my wife and myself completed the entire curriculum. The directors of this school were very cognizant that many pupils have difficulty learning a second language. To take care of this problem, a parallel program was laid out in which some Hebrew was taught, but most other subjects: Jewish history, customs and ceremonies, literature, etc. were taught in English. The two paths graduated side by side so that all graduates had a sound Jewish education. Sabbath and holiday services were held for the students. Some of the pupils were taught the basic melodies for these services. I learned much about our services to the point that at age 14 I began to conduct Friday evening services at Beth El Synagogue whose Rabbi at that time was Rabbi David Aaronson, may he rest in peace.

This synagogue also had a Jewish Boy Scout troop. I was Scout Master of this troupe for many years until we left Minneapolis to go to Pittsfield. I have ever been grateful

for the fine and comprehensive education that I acquired at the Talmud Torah. Because of this instruction, I have always been proud of my Jewish background and origin.

I worked as a cereal chemist for nearly six years from 1934 through 1939 at the State Testing Mill. This mill was run by the State in order to evaluate the wheat crop as it was grown in various parts of the state of Minnesota. Carloads of wheat were shipped in to the mill, milled to flour and bran. The various products were analyzed for protein and ash. The flour was baked into bread in a carefully organized procedure. I was able to get a position there through one of my father's brothers, my uncle Charles Goldblum. Uncle Charley had been an assistant district attorney under Floyd B. Olsen. In the early 30's, while Olsen was the Governor of Minnesota, Charley, my father and I drove one windy afternoon to the governor's summer home in central state and presented my case to him. His response was "leave it to me". I received a letter to report to the Mill a few days later, but was not well received by Al Hanson who was in charge of the Mill. He was very put out that he had not been notified about my appointment beforehand. When I showed him the governor's letter, he quieted down and accepted me. At the start, I worked on my thesis in the mornings and in the Mill in the afternoons. After the first year, I was employed the whole day and did my research at the University of Minnesota at night. I learned about flour and other wheat products, which has stood me in good stead for many years. When I retired in 1972, and had more free time at home, I began to bake Challah bread, which we use for Sabbath and holyday meals. I used a recipe of a good friend, and gradually modified it to my liking, so that now I think it is among the best Challah breads that can be had. Eventually in Minnesota, the Farmer-Labor party was defeated in the 1939 election and the mill was shut down. But by that time, we were ready to move on to Pittsfield.

In my letter, so far, I have more or less divided my life and experiences into three periods, each about 30 years, more or less in duration. The first period is in Minneapolis, and covers my youth and schooling; the second covers my employment with GE, and our life in Pittsfield; and the third covers my retirement and what I like to fill my time with, and which I hope will continue with reasonable good health for a number of years.

I will now describe the second period, which began when we came to Pittsfield to GE in 1940. I was employed by GE for 32 years and seven months. In the early 1940's, marked the beginning of the growth of the plastics industries. Starting in 1938 or 1939, Germany developed Polystyrene and related plastics and began their world wide production and usage. GE wished to have a place in its domain in order to commercialize any worthwhile chemical developments by setting up a Chemical Division. This was started in 1945, and Dr. Zay Jefferies was the first manager. He had been the manager of the Lamp Division Laboratory for many years. He was a very bright, kind, knowledgeable, understanding and caring person. He was the only manager that I knew who would come from his office on a more or less regular basis and make the rounds of our laboratory to talk to each person about his or her work, discuss the problems, make suggestions, and best of all, point out that in research and development work, great patience is needed. His memory was phenomenal. He remembered without making any notes what you had said to him from one visit to the next. It was a pleasure to work with him and for him. Everyone was very sad when he retired in the early 1950's.

One of the great developments occurred in 1955 when Dr. Daniel Fox invented a new polymer in the GE Research Lab in Schenectady. This was a polycarbonate later named LEXAN. I was given the job of talking to Dan Fox about his discovery, get all the details of production and possible usage from him, and bring this information back to Pittsfield so that a new industry would arise. I was accompanied by Dr. Eugene Goldberg of our lab. He later left us to become the director of research for Xerox Co. Gene and I found Dan Fox very wary of giving us any information. Dan feared that his contribution to the project would be soon forgotten and his idea would no longer be his! I promised Dan that I would always attribute the new material to him, and that I would keep him up to date on our progress in Pittsfield. Dan finally relented and gave us all of his data. We returned to Pittsfield and started our task.

One of the first aspects of the problem that we worked on was to find a simpler process procedure. Fox's method used a high vacuum and high temperatures in equipment which had to be leak-proof since very small amounts of oxygen leaking in would cross-link the product and result in an entirely useless product. Eugene Goldberg, and his assistant, David Morrison took my suggestion involving a solvent operating at room temperature and pressure and eventually recovering the polymer by precipitation and were able to produce the same product in a matter of a week or so.

We were very dismayed in late 1955 to find out that Bayer in Germany had applied for a U.S. patent on essentially the same polycarbonate polymer as Dan Fox invented. The next step for GE was to make an agreement with Bayer so that whoever got the US patent would agree to allow the other party to operate by paying a royalty. The meeting to establish this pact was held on February 4, 1956 (my birthday) in Pittsfield. Bayer was represented by Dr. Herman Schnell, the Bayer inventor, several patent attorneys, and a Bayer manager. GE was represented by a group from our lab: E.F. Fiedler, myself and several other chemists, as well as Abraham Cohen, a fine patent attorney from GE Schenectady. Abe met with us before the joint meeting and told us not to say anything about patents and dates of discovery without clearing the information with him first. Then the meeting began with the Bayer people present. I was called on to present our progress up to that date. I also showed some molded parts that we had molded of the new material. Dr. Schnell examined these molded parts and proclaimed that we were about two years behind them. I had the temerity to ask him how he could come to that conclusion merely from examining the molded pieces. His answer was, "the color." He then stated that Bayer's molded parts were water-white while ours were yellowish and it would take us about two years to equal their color. I am glad to report that within the next two weeks, we were able to make a water-white product!!

After other reports on our progress, the Bayer patent attorney asked Abe Cohen the date of Dan Fox's patent application to the Patent Office, Abe's answer was that he had purposely never asked Dan Fox for the date of his invention and therefore was unable to answer this question. After some inner discussion, the Bayer people asked to be excused so that they could confer privately. When they returned to us, they proposed that an agreement should be drawn up between GE and Bayer including a provision that whichever, GE or Bayer, would get the US patent, the other party would be allowed to

manufacture and sell by paying a royalty to the US patent holder. This was highly satisfactory to us, especially when it turned out later that Bayer had gotten the patent because their date was about one week before Dan Fox's date of invention!!

Several years later, one of the men working in my Research Section came to me to help him decide a problem. He had been with us for some time and always did a fine job and he had received a chance to head up another laboratory in GE. He told me that he did not want to leave us because there might be something big like Lexan coming down the pike and he did not want to miss it. I asked him to give me the number of top-notch products like Lexan had come along in his tenure with GE. He admitted that he had only seen the one product in his 11 years with GE. I then asked him if his chances of enjoying running a lab was a poor trade for waiting for another "big" project to come along. He decided to take the new assignment and he was successful there.

One of the people that I got to know very well and have mentioned before was E. F. Fiedler, better known as Dutchie. He was born and lived in Adams, MA, a small town near Pittsfield. He had studied chemistry at Colby in Maine and had played on the football team there. He was in awe of anyone who had a Ph.D. When we shared an office for 12 years, I had plenty of time to talk this over with him. I tried to tell him that the person himself was more important than the degree he had earned in college! I had seen many Ph.D.'s in my experience who were no match in knowledge to Dutchie. I even pointed out to him Ph.D.'s in our own lab who did not succeed very well despite the degree! I think that I was able to convince him not to regard the degree alone with such awe.

We became very close friends, and with our wives had many good times together. One of Dutchie's habits was to read the NY Times from cover to cover daily. He was up to date on everything world-wide every day. Dutch was about ten years older than I was. He had a fear, because of his family history, that he would die at age 65 because his father and grandfather had done so. I can recall the agony he went through until that year was over. He lived to 90, and died in a car accident brought about by stepping on the accelerator instead of the brake pedal. He was a wonderful friend, may he rest in peace.

There could be much more to tell, including that I have 11 U.S. patents. But eventually, it came time to leave GE and retire. This had some complications. One day my boss approached me and said that if I wished to retire, I could and that he had heard that I wished to retire. My reply was to the effect that if I retired on my own volition, I would receive no severance pay. But if I was retired by the company, I would receive severance pay. The reason for the feeling that I might retire on my own was due to the fact that the Plastics Laboratory had been moved from Pittsfield to Mount Vernon, Indiana where the Lexan plant had been built. I had been to Mt. Vernon a number of times. It was a small town with only two Jewish families and not a good place in which to raise Jewish children. The nearest good-sized place with Jewish population was in Evansville, about 40 miles away. There was a beautiful four-lane highway between the two towns. I noted as I was driven over this highway that the speed limit was 70 miles per hour. I did not feel that driving 80 miles a day at 80 or so mph (nobody got down to 70 mph) was a good thing for a 60 year old person. So I decided to stay in Pittsfield. But now I had to find another work spot.

Dan Fox, who had moved by then to Pittsfield, offered me a job in his laboratory, which I accepted cheerfully. Within two years, GE found the money to take care of my severance pay, and in September 1972 we parted company. As I was clearing out my desk and getting ready to leave, one of the employees came to me and said "You have been here a long time and did such fine work, I will miss you greatly and so will the company". I thanked the person for the kind words and said, "Let me tell you exactly how this goodbye will go. In about 15 minutes, I will go out of the front door and leave. In about 30 seconds after that, you will have forgotten me and I will have forgotten you." I cannot remember who the person was, and I do not recall seeing him again!!

Now, I must fill in what was happening to me outside of GE. For some 11 years after our marriage, my wife and I had tried to have children, but to no avail. In 1945, we were approached by the wife of a Reform rabbi in Pittsfield who asked us if we would consider adopting a five year old boy. We were delighted with the idea and met the youngster whose home was on Long Island. After seeing this boy, we made every effort to adopt as soon as we could. In January, we drove again to Long Island and took our son home with us. He had not been accorded very good treatment by his step-mother, especially after she gave birth to a son of her own. Our new son, Carl, was fearful for some time that someone would arrive and take him back to his misery. Eventually, that feeling wore off as we showed him love and affection. Today our son lives in Ashkelon, Israel where he is a general surgeon in a government hospital. He has three children by his first wife, one of whom is adopted. He has two children from a second marriage, and more recently has become a grandfather from the marriage of his older daughter. We hear from him regularly, despite all of the difficulties in Israel. We have visited Israel 20 times since 1956. I must admit that the trip there becomes more difficult as we have aged.

Having made the first adoption successfully, we adopted a very young girl several years after adopting Carl. We named her Ann after Adelle's mother. She is now almost 54 and lives in Florida. She had two lovely daughters from her now divorced husband. One of the girls is married and has an active youngster, born nearly three years ago on July 4!! The other daughter just graduated from Pitt with a degree in civil engineering. She has a fine head, and is now looking for employment.

We try to keep in touch with all the grandchildren and try to get new photos of the great grandchildren. Our refrigerator in the kitchen is covered with photos!!

During all of this time, we have been deeply involved in the Jewish life of Pittsfield. Starting in 1942, I was the chairman of the board of the Pittsfield Community Hebrew School. I was a member of the board of our congregation, Knesset Israel, for fifty years. I taught the 12 to 13 year old boys and later the girls for bar and bat mitzvah. I have regretted not keeping a list of the names of the children that I taught over a period of 60 years. I have had some of them greet me after many years, and I do not recognize them sometimes, even if they have given me their family name. Also, by this time they have spread all over the U.S. and other countries. My guess would be that I had over 400 students. A goodly number of them have ended up being leaders in their Jewish communities, which pleases me no end. One of the nicest compliments I have ever received involved a visitor to our synagogue who remarked to me after a service that a man

in his synagogue had been trained by me because the service done by him was precisely the same as he found in our congregation.

All in all, both my wife, who taught in our Hebrew school for over 25 years, and I have tried to influence our children and our pupils to be good Jews and upright citizens, as well as to keep the tradition going. I do not know how much longer I have to continue this teaching, because, as my maternal grandmother would say, "I know that I do not have a contract with God."