RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY

NEW BRUNSWICK

# AN INTERVIEW WITH BRIAN BERENBACH

FOR THE

RUTGERS ORAL HISTORY ARCHIVES

INTERVIEW CONDUCTED BY

KATHRYN TRACY RIZZI

NEW BRUNSWICK, NEW JERSEY
AUGUST 2, 2018

TRANSCRIPT BY

JESSE BRADDELL

Kathryn Tracy Rizzi: This begins an interview with Brian Berenbach on August 2, 2018, in New Brunswick, New Jersey. The interviewer is Kate Rizzi. Thank you so much for coming in to do part two.

Brian Berenbach: Oh, it's my pleasure.

KR: I would like to ask you something that we talked a little bit about in part one. When you were in the service, you were stationed on American Samoa. Tell me what that was like and what you were doing.

BB: Well, what happened was we had a nuclear laboratory on Samoa. The reason was that when you set off an explosion, a nuclear explosion, you get radioactive elements, and some of them decay very rapidly. It's those early elements that decay rapidly that can tell you the make of the weapon. The idea was, instead of going all the way back to the United States or all the way to Japan, Samoa would be a good stopping point. In some cases, depending on which weapon we were analyzing, the planes would stop in Samoa, and we'd do the analysis in Samoa. I was sent to Samoa in anticipation of, I believe it was, French nuclear tests, in anticipation. I was in the laboratory there along with one or two other engineers, and we performed the analysis and sent the results back. At the time, I was stationed in Sacramento at McClellan Air Force Base, so the results went back to McClellan. It was interesting because the planes could only take off in the morning. I don't know if I mentioned that to you. [Editor's Note: Mr. Berenbach served in the 1155th Technical Operations Squadron, of the Air Force Technical Operations Squadron (AFTAC), at McClellan Air Force Base. AFTAC served as the U.S. Department of Defense's monitoring center for ensuring the implementation of the Nuclear Non-Proliferation Treaty (1968).]

KR: You did, yes.

BB: Once it gets too hot, there's not enough lift for the planes. The air has to be a certain density for the planes to take off. They can land anytime, but taking off can be an issue.

Samoa was very interesting. I was stationed on a military base. I had my own iguana, my own pet iguana. Every room had its own little iguana or other animal that would kill all the bugs, so you didn't have to worry about spiders and scorpions because the iguana would take care of all of those for you. You were very careful not to disturb them.

Then, walking around on the island, the beaches were very rocky. So, the resort areas, there was a resort area run by Pan-Am at the time. The resorts, they had to make their own beaches because the standard beaches were too rocky to sunbathe. There were a lot of churches on the island, I remember that, and painting. A lot of people did painting. I once purchased a woven mosaic with the Jewish Star, and then later on, when I was transferred to Japan, I gave it to the Jewish community center in Japan.

The Samoans, they ate this, I forgot what it's called, this tuber. Up until the age of fifteen, they were thin as a rail, and after fifteen, they all became sumo wrestlers, men and women. The people on Samoa were very patriotic, and a large number of them volunteered for the military. I

couldn't tell whether that was because they were patriotic or they wanted to get the hell out of Samoa. I couldn't be sure which one it was because [it] could be really boring there, no movie theatres, no big main street with action. It was quiet as a church mouse on Samoa.

KR: Which island were you on? [Editor's Note: American Samoa consists of five main islands and two atolls. Tutuila is the largest and main island of American Samoa. The capital, Pago Pago, is located on the island.]

BB: Oh, I don't remember, just American Samoa was the big island I believe.

KR: You said you were monitoring French nuclear tests. Where were the French doing their tests?

BB: They were doing their tests on their own [island]. They were colonial power and they occupied some islands. I believe it was--not French Samoa.

KR: Was it French Polynesia?

BB: French Polynesia, yes. They had one or two uninhabited islands, or if they were inhabited, they were uninhabited when the French got done with them. Mostly, they would set off air blasts, but I think they also did one or two ground blasts. In Samoa, that's where we had the incident with our plane being chased, the French Mirage trying to chase off our plane. It would have caused, if it had shot it and it hit it, it would have caused an international incident, you know, "French Mirage shoots down American plane." That would have been all over the papers.

KR: What was daily life like when you were stationed at American Samoa?

BB: For the most part, boring, because when a bomb had not gone off, there was nothing for me to do. I would just go walking in the woods, walking around, walk into the towns, do beachcombing, just go beachcombing. The captain in charge of the base--it was considered minor enough that the highest-ranking officer there was a captain--the captain on the base and I used to play chess a lot. Almost nothing to do there, very, very boring duty, which is the way it should be.

KR: About how long were you there, and about how often would the French do a test?

BB: I was there for about two or three months, in the space of which I believe the French had two shots. The reason that they sent me is they knew in advance the French were going to shoot because the French have to make a big announcement warning everybody away from an area. We had lots of warnings. I was there for two nuclear tests, and then I came back. It was either one or two; I'm not sure exactly how many. Then, after the analyses were done and they were shipped off, when they were sure there were going to be no more nuclear tests, I went back to California. I was a first lieutenant at the time.

KR: I wanted to ask you about your time at Yokota Air Base. You said that Rabbi Goren and a group of Israelis came to visit and you served as a tour guide.

BB: Right.

KR: What were your impressions of Rabbi Goren?

BB: Like a bull in a china shop. He stopped, I followed him around at the hospital. By the way, I didn't even know the hospital was there--I was stationed on Yokota for a long time-I didn't even know the hospital existed until [then]. It wasn't a popular thing. People didn't go to, "Hey, let's go visit the hospital today." People didn't do that. He would go around, talk to the injured soldiers, I would shake their hands. One of the things that impressed me about the wounded people was how many African Americans there were, a disproportionate number of wounded African Americans. [Editor's Note: Shlomo Goren served as the first head of the Military Rabbinate of the Israeli Defense Forces and then as the Chief Rabbi of Israel.]

KR: That was an American hospital.

BB: That was an American hospital. That was an Air Force hospital on an Air Force base, yes. This was where the soldiers would go to get immediate treatment before they were shipped back to the United States.

KR: Were these soldiers who were wounded in Vietnam?

BB: Yes, they were all soldiers who were wounded in Vietnam. I was actually in the hospital myself once, but I came down with mononucleosis and they put me in the hospital for a couple of days.

KR: At Yokota?

BB: At Yokota Air Base, yes, so I got to be next to some of them. Then, when I got better, I got out of the hospital and then I was fine after that.

KR: What type of interaction did you have with the other patients in the hospital when you were in for mononucleosis?

BB: Just, "Hello, how are you?" That was it. Most people were too sick to say anything to anybody. You're just sitting there stewing, thinking about your own problems. I did notice that a lot of people were very seriously injured. I think the ones who had lost limbs got shipped out almost immediately, so I didn't see them. I saw one of the people with wounds, like wounds to the stomach or the chest and stuff like that, where they had to just basically be immobile and heal. I didn't see much of anything else.

KR: When Rabbi Goren was going around the hospital, you were with him.

BB: I was with him. I was in the entourage following him around, yes. I had never been to the hospital, so somebody else was leading the people around, and I did not set the agenda, the reason being they wouldn't have wanted an Israeli to come into a nuclear facility, especially

when it was illegal to have nuclear materials in Japan. That would not have been a cool thing to do. So, I just basically was in the entourage. I saw him and I spoke to him. Then, when I got out of the service--I don't know if I mentioned--I interacted with him again, once I was out of the service. In the back, we had embassy people, Israeli Embassy people, and I met one or two. Then, I went into Tokyo. I went into the embassy in Tokyo, and I took Hebrew lessons from a young sixteen-year-old girl in Tokyo who was the daughter of one of the Israeli attaches to Tokyo, to Japan rather. I met the military attaché who was a lieutenant colonel, an Air Force lieutenant colonel.

KR: What was your interaction later with Goren?

BB: Okay, I didn't tell you this before? Well, this has to do with when I went to Israel after the service. I was unable to find a job, so I had temporarily parked myself at the Technion [Israeli Institute of Technology], theoretically to get a doctorate. That enabled me to live off of my VA benefits, the fact that I had enrolled for a Ph.D., but I was just marking time before I went back to the United States, or I was trying to get a full-time job in Israel. I couldn't find a job. Nobody was hiring me. It was a big depression. Every Israeli I would run into would say, "You're crazy. What are you doing here? I'm going to the U.S. or I'm going to Germany to make some money. What are you doing here?" I got very depressed.

Finally, I thought, "Well, maybe I'll try to use a bigwig. I'll go right to the top." At that time, Goren had left the military, and he was now the chief rabbi of the State of Israel, which is a pretty high position. So, I went to see him. He received me, and he was very nice to me. He said, "Okay, how would you like to be a major in the Israeli Air Force?" I seriously thought about it, but the thing about the Israeli military is you had to sign for six years and I had just come off four years in the American Air Force. Truth be told, I thought I was getting a little homesick, and the thought of being locked into another Air Force slot for six years, it really didn't appeal to me. I loved the people. I loved the country, but it wasn't the United States. Only distant family was there, no immediate family, and I really felt a desire to go home eventually, and I felt that signing would really restrict my options. I'd be stuck; for six more years, I'd be stuck in Israel. While it would be pleasant duty, it wouldn't be what I wanted. The other thing is you're going into a hole too because the salaries are so low there that you can't get money to fly back to the U.S. for a visit. I would have had to wire my mother and say, "Could you send me some money so I can come home and visit you?" I didn't think that was appropriate. The salaries, I knew people who went to live in Israel, and once they were there, they couldn't come home. They couldn't come back for a visit because it cost so much money, based on their salary because their salaries were so much lower than ours. Unfortunately, I had to turn him down, and that was the point at which I said, "You know, maybe it's time to go home." I was in Israel for two years, and then I came home. That was post-military.

KR: I am curious about your readjustment to civilian life because you went from the United States Air Force and this two-year period in Israel. What was your readjustment like?

BB: Well, I went to Israel for a variety of reasons. One of the reasons I went to Israel is because they did not look down on American soldiers. They had just finished fighting a war. They held military in very high regard. I, even though I was no longer in the military, I was held in high

regard as a person. No one yelling baby killer. No one spitting on me. Only nice things to say about me. Doors would open because I was a veteran. I could visit people. I made a lot of friends easily. In the United States, it was a completely different situation. I had been in the U.S. on one or two occasions, and I felt very uncomfortable. I just didn't feel like I fit. After two years, I felt I was ready to grin and bear it and I headed home. That's when I went home and started looking for a job in the United States. I thought, "Right now, I can't find a job in Israel." It wasn't for a lack of trying. I must've gone on thirty interviews. I couldn't find anything.

I told you what had happened at Nahal Soreq. I went there to work in the Nuclear Research Institute, after I come out of the Ulpan and knowing Hebrew, and going to the research institute and he says, "Sorry, we cut your job." They were going through a downturn, and nobody was hiring. The other thing that happened is I went for a job interview as a chemist, not a computer person, as a chemist. It was so unlike what I was used to. There was a row of people all sitting in a hall and we're all sitting there and they say, "Next." They all call you in, and you sit in a chair. There's a bunch of people facing you, and they're all eating. I'm a professional with two graduate degrees. I don't need this. They interview me while they're eating. [Editor's Note: The Soreq Nuclear Research Center is located near Yavne, Israel.]

KR: This was in the United States?

BB: No, this was in Israel.

KR: This was in Israel.

BB: Americans didn't treat their interviewees like that. This was only in Israel. What it said to me is they really don't need people. If they needed somebody, they would treat you nicer. The Air Force would have treated me nicer. They would have loved to have me, the Israeli Air Force, but, no, I don't think so. That was a very bad experience for me, and after one or two interviews like that, I just chalked it up and went home. I just said, "I can't take it anymore," and I left.

KR: How long was the job search once you got back to the United States?

BB: About a month. What happened was I sent out a bunch of resumes, nuclear engineer. Nobody was hiring, absolutely nobody was hiring, because that was when the nuclear industry had crashed. I crossed out nuclear, put in chemical, sent out resumes, and I had a job two weeks later in Bound Brook, New Jersey for American Cyanamid.

Thus begins my tail in computer science. Now, keep in mind I had been working with computers peripherally in the military, in the Air Force. I think I mentioned I did a study and I got the analysis of nucleotides, the radioactive isotopes. I got the analysis down from twenty-four hours to two hours using pressurized tubes. I didn't invent it. I got it from Lawrence Livermore [National Laboratory]. I used computers to model the bed and to tell me when to switch effluent. This I had done offline. You look at the printouts and see when to do what.

When I got the job as a chemical engineer, I had not expected to do very much, except they told me that what I had done in the Air Force was a really good fit for what they wanted me to do. They wanted me to model the waste beds in Bound Brook at the American Cyanamid facilities because they were supposed to try to clean up the waste water and they wanted me to do modeling and simulation on the beds. I thought that was a great fit. So, I show up and the day I show up, they say, "I've got good news for you and I've got bad news for you. The bad news is we're not going to use you to do modeling and simulation of the beds. We're going to use somebody else to do that. The good news is we're putting you on a project to modernize our powerhouse and we're going to put in computer control systems for the powerhouse." That's when I started to get really, really heavily into computer systems. I was working with Westinghouse, and I was writing a lot of code. Basically, it was OJT [on-the-job training] for me to watch how they did computer control systems. I learned everything you need to know to put in the computer control system. I learned all about the sensors, the wiring, the front ends, the computers, what kind of computers you use, how you use them. I learned all of that. I became an expert in computer control systems. Like I said, I did a lot of programming. I would spend two weeks at Westinghouse, and I would spend two weeks back in the United States in Bound Brook. I did that for about two years.

Then, I noticed that things weren't going anywhere. The Bound Brook plant was closing down, and I probably would've maybe been on the street. I was always very aggressive of being in control of my own career, not letting someone else be in control of my career. I noticed that there was a job for a computer control specialist at Lederle Laboratories. Lederle Laboratories was a division of American Cyanamid, so this would've been a transfer. I would've kept all my benefits. I would not have lost any of my vacation, anything like that. I go to my boss. He says, "You can't do it. We need you here." I went to the vice president of Lederle. The vice president of Lederle goes to the vice president of Bound Brook. The vice president of Bound Brook goes to my boss's boss. He calls me into his office and says, "You're going for a job interview." [laughter] I knew that going this way, going from the bottom up, nothing was going to happen. I was going to sit there and rot. So, that way I went over to Lederle.

I moved. I had to relocate because I was living in Old Bridge, and I relocated to Monsey, New York. That was right about the time I got married, so I married my first wife right around that time in 1979. Yes, this was '79. I worked in Lederle for a few years. I designed a brand new control system for their pilot plant, where they make antibiotics, and I did a couple of other optimization projects for them. I did some modeling and simulation, mostly wrote code for control systems, and then after that, I did another pilot plant. I did a distributed control system for another pilot plant, and they wanted to install it in England. So, they brought me over to England, and I went to England to talk to them about it. Then, after that, they decided that it was sufficiently viable that they were going to use it worldwide. They put in this proposal to use it, to create this more robust control system that you can install worldwide. I waited a month, two months, three months; nothing happened. I left the company, and then three years later, it was approved. ` The wheels moved slowly at Lederle Laboratories.

The one thing that impressed me about Lederle was that the vice president of research, who was several levels over me, used to come and sit in my office, and say, "Hey Brian, what's happening?" I noticed that he was one of the very, very few high ranking company officers

anywhere who would ever do something like that. I used to meet him and he would stop and talk to me and say, "How's things going?" and this and that, and he used to do that with a lot of people. I thought, "Boy, that's really smart, and if I ever get to be at that level, I'm going to do that," because that's when you really learn what's going on. I had some really interesting things happen to me while I was at Lederle. Can I talk about them?

KR: Yes.

BB: In all of the research facilities, there were computer controls. They had typewriters or teletypes that connected to the computer systems. My boss was named Charlie Reeney. He was a lieutenant commander in the Navy Reserves. We got along for that reason, but he wasn't too swift. He starts up a project to buy locks for all of the teletypes. See, you can't talk to the computer unless you put a key in the lock and flip it, and then you can turn on the computer and use it. I got to a meeting, and I haven't heard anything. I don't know anything at all about this, but I knew a lot about digital equipment computer systems. I said to him, "Why don't you set slave?" They didn't know what that meant, and it meant that you can, if you're an operator, you can turn any remote station into a slave and the operator has to authorize it before you can use it. He said, "Well, I didn't know about that? Check into it." That's the last thing I ever heard about them putting locks in. They were going to spend 75,000 dollars to put locks in. I thought that was the most ridiculous thing I ever heard. Yes, that was the kind of thing that was really silly.

The other thing is he came into my office one day and says, "Okay, Brian, I want you to put down on your time sheet only the time you're here during core hours," or something like that. I said, "Look, if I work from three in the afternoon to eight or ten [at night] or whatever, I've worked an eight-hour day." He says, "No, I don't want you too record that time," or something of that nature. I said, "Well, that'll show. In one week, I might have on my time sheet that I've only worked for three or four hours." I said, "On reflection, someone who comes after you won't realize that." He says, "Well, it'll be okay. It'll be okay." I said, "Charlie, I'll do it. All I want is a memo from you in writing, signed by you, saying that I should do it." He goes to his boss, to a meeting with his boss, and he gets laughed out of the room and that was the end of that. Then, I found out that everybody else but me was doing it. I was the only one who wasn't doing it because. It reminds me of the king with no clothes. It took a little girl to stand up and say, "Hey, you don't have any clothes on." That used to happen a lot.

I did that for two years, and when things went nowhere, they went absolutely nowhere, that was when I decided--remember, I told you the new control system, they kept, "When are we getting approval?" "Next month." "When are we getting approval?" "Next month." While I was there, I was in Monsey, and I said, "Well, I might as well go back and start a Ph.D. in computer science." So, I was married, and I had small children. Two days a week, I would drive over the Tappan Zee Bridge, go into the Polytech Campus in Westchester, and take computer science courses. I absolutely loved them. These were graduate-level courses. I absolutely loved the courses.

KR: What courses were you taking?

BB: I was taking courses in "Systems Analysis," "Compiler Theory," "Theory of Programming Languages." These were all the courses right up to what you need [in] the first level, for the qualifier, before you start your research. I remember once, in an analysis class, I kept raising my hand, and the professor was an adjunct from IBM. He says, "Brian, you know a lot about this stuff. Why don't you teach this class?" I said, "Okay," and I got up and I taught the class. I had no problems with the material. In fact, it came really naturally to me. Some courses, you know how you have to really, really struggle. I never had to struggle with these courses. It came so easy to me. I guess I had a natural aptitude for it

In the meantime, I had a little boy, Marc, in Monsey, New York. He was just a child. My wife, my first wife, Lisa, there was something wrong with her, but I didn't notice it so much. It was very difficult to deal with her. She would have explosive moods and stuff like that. As the years went by, it got progressively worse. After a couple years at Lederle Laboratories, which was a beautiful area, just an absolutely gorgeous area, I decided I wasn't going anywhere. I'm not one to sit on my hands. The only thing is I could've stayed there and finished my doctorate, spent another three or four years and finished my doctorate, but I was just getting so impatient.

I went for a job interview with Combustion Engineering, and they were in Bloomfield. So, it was not a bad commute, forty-five minutes. I went for a job interview, and they hired me as a project manager for computer control systems to put computer control systems in all over the world. Right after that, we moved, and we moved from Monsey, New York, to Edison, New Jersey. The taxes in New York were much higher than the taxes in New Jersey at the time, although they make it up in real estate taxes in New Jersey.

We moved. I didn't realize it at the time. I guess I did, but I never thought about it. We were a thousand yards from mother-in-law. My wife's mother lived right around the corner. It was nice in a way in that she could babysit, but also my wife's behavior was bizarre and my mother-in-law would always defend her and say everything that was going on, she was having problems because I was being cruel to her.

The thing about Combustion Engineering is I had a thirty percent salary increase when I went to Combustion Engineering. Of course, I was a project manager. I put in computer control systems on gas pipelines. I worked on computer control systems for ethylene plants. Right about that time, they started to have problems with software. I was looking at what they were doing, and it was bizarre. They had a bunch of consultants, and they were coding everything in Assembler. Now, I don't know if you know enough about computer languages to know that you do not want to write code in Assembler, especially on large projects, because it's extremely low level and prone to mistakes. It's very, very hard to do designs and keep track of what's happening.

I went into a meeting with them, and they were having trouble with their computer. They did a distributed ethylene computer control system, and they were having trouble getting it working. What they had done is they had broken into the operating system and modified the Digital Equipment Corporation operating system because it wasn't going fast enough for what they needed. I go into a meeting, and they're talking about the fact that they've been delayed three months, because they can't get it to work on their new computers. I say, "Why don't you just use a standard operating system? The new computers are about forty to fifty percent faster than the

older computers. Maybe you don't need a custom operating system anymore." They looked at each other, and it's the last I ever heard of it. They tried it out, and it worked immediately. It worked immediately. The problem is you can't see. No one thought holistically. They all thought from the bottom up. No one ever thought from the top down.

Then, they said to me, "Hey, Brian, you're really good with software. Maybe you shouldn't be a project manager. Maybe you should be a programmer." I said, "All right." The money is the same; it wasn't any different. Then, I started working on a simulator for modeling and simulating power plants and chemical plants. I designed the framework for doing this. The person that I was reporting to at the time was Dr. Toshi Shinohara. He was a brilliant man, but he and I used to go at loggerheads all the time because he didn't know computers. He kept wanting to do stuff that was impractical, like he said to me once, "Our competition is putting the operating system on floppies. We want to have the operating system on floppies, too." [Editor's Note: This story is referring to floppy disks.] I went to the vendor, and they said, "No, it's not possible. You can't do it." Then, a few years later, I met someone from the competition. He says, "No, we never did it. We were never able to do it either." I kept having problems like that.

Then, I got a promotion, and I was a systems engineering manager. They kept doing really, really stupid things, and I had very limited control. Finally, they asked me if I would like to design a brand new, three-million-dollar modeling and simulations system for the new 32-bit computers. Everything prior to that was 16-bit. I said, "Sure." They allocated a lot of money. I got it working. We came in under budget and under time, and they used it for twenty years after that. Then, one of the vice presidents said to me, "Brian, I'm starting up a new division in Raritan Center. How would you like to relocate?" Raritan Center was six minutes from my house. I said, "Okay, I'll relocate." It was only six minutes from my house.

I went down to Raritan Center, and I took the computer control system I had started to build, a 32-bit, and I modified it very heavily for power plants. We got a whole bunch of applications engineers, and we started to sell these things. They were going pretty good, and we had a whole bunch of sales. The people that were managing didn't do a very good job in many cases. It was amazing how bad managers are sometimes or how they won't listen to you. Then, you'll tell them something, they won't listen, and then it'll cause a lot of grief later on. To give you an example, I was at a meeting, and the client at this meeting, the client agreed to pay 600,000 dollars for upgraded computers because the existing computers were not going to be powerful enough. This might have been for Indian Point. So, the meeting is over; everything's done. About six months later, the project manager comes back to me. "Brian," he says, "We're going to have to pay for that." I said, "Why? The client agreed to pay for it." "Well, we can't find the minutes of the meeting," the signed minutes where they agreed to pay for it, which I had a copy. I gave them my copy, and that was the end of that. [laughter] It was just on and on and on and on. Some of those guys were eventually fired for incompetence. I had people tell me that they didn't want to work for me because they were chemical engineers. They were doing computer stuff, but they wanted to do it their way, no designs, no reviews, simply go and sit down at a terminal and code. [They would say], "Well, I've been doing it that way for years. I should be able to do it that way."

We had one incident where there was a new hire, and they were doing a gas turbine or something. The managers weren't very good. The manager tells the person to go off and do it, and they go off and do it. It takes about two weeks, two or three weeks, come back. Then, the person said, "Well, how come you didn't use CETRAN?" which was the system I had developed. "Well, I didn't know about it. You never told me." So, he sat down with this person and did it in two hours. Productivity differential was intense.

During this time, first, I lived in Monsey, and then I moved to Edison. That's where my other two children were born. In '85, 1985, we moved to Edison, New Jersey. Mark was born in '79, I believe, and then I moved to Edison, then the other children were born, I believe, in Edison. I'm terrible with dates. I remember going to childbirth classes at JFK Hospital. So, then the other children were born. Jason was born and then Joshua.

When this facility, the facility at Raritan Center, started to peter out, they started to move stuff out. I brought my kids in with their radio-controlled cars, and they had a field day because it was just one big open area where all the computers used to be and they would have these racing events in the office. The thing I didn't like about it was that because I was the closest person to the office, six minutes away, they used to call me whenever there was an alarm. They had vibration sensors on the windows, and trucks used to go by at two in the morning and set off the alarm. I constantly was getting phone calls at two o'clock in the morning to come in and check the place.

While that was happening, my kids were in school. All three of them were very bright. They were all very bright, but my wife Lisa was getting increasingly erratic. With the birth of the third child, she started to become really, really erratic. I remember when we had one of these performance things for the children--I'm trying to remember which child it was; I think it might have been Jason--she wound up going nuts and it took four police officers to subdue her. It turned out that she was bipolar, and her mother had been concealing it all the time. She had never actually gone public with the behavior. It was always behind closed doors, and everybody use to say, "What a wonderful person your wife is." They didn't know what happened the minute the door closed and the screaming started. She would scream and scream and scream over the most trivial things, like a shoelace broke, she would go into a fit. Then, eventually, she started to have episodes closer and closer together, and she was hospitalized a couple of times. In one case, she came after me with a knife. I backed out and called the police. It was very difficult. We got a divorce. That's when we got a divorce, around, I think it was 1996. In '96, I think I got a divorce, and then my mother died in '97. It was very difficult because I was a solo [father], but they were a little bit older. The youngest, at the time, was about seven or eight. Josh was seven or eight when the divorce had finalized.

KR: You got full custody of your sons.

BB: Well, originally, we went for counseling, and the counselor awarded custody to my wife. Then, once she went public, then I had papers that said she'd been committed. The judge interviewed the children, and the children all said they wanted to live with me, so they gave me full custody. On one or two occasions, I came close, though I never did, I came close to getting one of these restraining orders to keep her away from the children because she was a menace to

them when she was having an incident. That was my first wife. Then, I just started dating for a while, but it was kind of difficult.

The other thing that had happened is [that] when I was in college, I started doing karate. First, I studied with Hisanobu Yamazake, and then Masayuki Hisataka. These two people were in a style called Shōrinji-ryū. I did it for a while. Then, I went to Japan when I was in the service. I was at Yokota Air Base. I used to go into Tokyo, and I ran into someone who knew where there was a studio, a Shōrinji-ryū studio. I went to the studio, and I started studying karate with the grandmaster. He was in his seventies at the time. I did that for the whole two years I was there, came back, forgot about it.

Then, in '85, I moved to Edison, and I started teaching at the Stelton Community Center. I had a very large school. I had over fifty people in the school, but it was bad because I was the only black belt. I had nobody to help me initially until years later people had gotten higher ranks, then they could help me. All this time, I've got these three children. I put all three children in my karate class, so I could keep an eye on them. Two of them decided they didn't want to do it anymore. My oldest, Marc, had started doing Odyssey of the Mind. He was very good, and his team went to the worlds. They did very well. He dropped out to do Odyssey of the Mind. My middle son, Jason, stayed with it. My youngest son, he said he was "too sensitive." My youngest son, Joshua, he's the kind of person he never finishes what he starts. He'll start something, and then he'll give up on it. He'll start something else and give up. He did karate for a while. The thing is he's very, very good at it, and then he just decided, "I don't want to do it anymore" so he quit. It's the kind of thing where you can't force people to do that. It's something they have to like. Jason stayed with it, and now he's a fourth-degree black belt and he's running the school that I used to own. He's got over forty students. He's doing very well.

KR: Tell me about your recent work as a professor.

BB: Okay. Rewind, back to when I was doing my doctorate in computer science. I have a friend, he's still alive. He lives in Monsey. He said, "Hey, Brian, I teach computer classes at Mercy College, and it's really easy. I teach intro courses." I said, "Okay, it might be a way to make a little money." I interviewed, and I started teaching intro classes in Mercy College as an adjunct, basic courses, and then gradually a little more advanced, a little more advanced. Then, I switched, and I started teaching at Montclair State. Again, I started with the undergraduate courses, and then I wound up teaching the graduate courses. I was teaching the graduate computer science courses at Montclair State.

KR: What courses were you teaching?

BB: Okay, so I taught "Computer Algorithms," "Data Structures," "Theory of Programming Languages," "Compiler Theory," "Systems Analysis," "Systems Engineering," "Databases," and "Data Structures." I think that pretty much covers most of what I taught. One or two semesters, I taught--you know how they have these special courses--I taught "Object-Oriented Programming with Small Talk," which was a brand-new paradigm at the time, so I taught an intro class I think it was at the undergraduate level, to the seniors. I stopped teaching.

When I worked for Siemens, I was teaching internally, so I would teach courses on requirements engineering. Then, later on, they asked me if I would teach courses on systems engineering because the big thing started to become systems engineering, and requirements engineering is a subset of systems engineering. I started teaching systems engineering courses; I wasn't teaching outside at this point. I started to write papers. I think I must've written over forty-five papers, and I wrote a book on requirements engineering. I wrote some papers on systems engineering.

I would to go to a conference called INCOSE, International Conference on Systems Engineering, I-N-C-O-S-E. Along with that, they would have a doctoral symposium, and I would go and I would sit in the doctoral symposium. I was invited to sit in, and I had a young lady sitting next to me, a nice young lady, Carlee Bishop. She was teaching at Georgia Tech. In fact, she was dean of the program, the graduate program. The way that it worked is the students would come. They would give a talk on their thesis topic. Each table had a different focus, and they would come and talk to us. They would say what they planned to do and how they planned to do it. In most cases, the theses were too wide, and they didn't have a clear ending in sight. There was no clear ending, so we would talk about that. Carlee got to know me over two or three years. I wrote some papers, and I gave some talks.

I mentioned to her that I was retiring from Siemens, and when I retired from Siemens, she called me and asked me if I'd like to teach systems engineering at Georgia Tech. Then, that was in 2013, so I've been teaching there ever since, part time. I'm what's called a mentor, which means that I do not have primary course responsibility, but I've written some of the course material. I've given some of the lectures, and I hold office hours. What we do depends on how big the group is. We'll have office hours, and then two or three of the mentors will each take one group and will answer questions, help students with their projects. That's what I do, because I'm remote. That's okay, because the students are all remote, too. None of them live in Atlanta, you see.

KR: Okay, so it is a remote program.

BB: It is a remote program. About August 19th, I'll go to the campus. I'll stay there for a week, just to meet all of the students. I'll get to know them, get to know their names. Then, everybody separates, and then they start working. It's a very intense program. I've been doing this now since 2013.

I did go for a job interview. The College of New Jersey wanted me to teach one or two engineering courses. First of all, it was an hour drive, and all the courses are on campus. So, I'm going to drive an hour to teach an hour course and then drive an hour back, twice a week. Then, on top of that, it locks you. You can't do it remotely, so that means for the entire semester, I'm not going anywhere and I can only go to Disney World when all the kids are in school. It wasn't for me, and my wife says, "What are you crazy? What do you need that for?" She's right; I don't need it. The Georgia Tech program is quite sufficient for me. At one point, I started to teach four courses, and I said, "That's it. It's too much." I dropped back to three. I couldn't handle the fourth course.

KR: What are the three courses that you are teaching?

BB: "Introduction to Systems Engineering," that's the graduate intro course that all the students take. The second one is "Engineering Management," the management of teams. The third one is "Modeling and Simulation." Those are the three I teach. I was doing a fourth one on engineering modeling with the SysML language, and I stopped doing that one. The grading was too much for me. I just couldn't handle it. If you have thirty students and you have to grade thirty papers and it takes an hour to grade each paper, I don't want to spend thirty hours grading papers for that class. The other three are just fine.

That's the other thing, when there's a team, say, they have thirty students, divide by five, you've got six teams, I have six papers to grade, you see, because the whole team turns in one paper. It's a mix of individual and team assignments. Systems engineering being a team activity in real life, they want to make the graduate courses as close to real life as possible. There's a lot of team involvement and team activities.

KR: You said you have written forty-five papers.

BB: Something like that, yes.

KR: I am curious if anything you have written is groundbreaking.

BB: Yes, about three or four of them are groundbreaking.

KR: What are the topics of those?

BB: Okay. UML [Unified Modeling Language] is the big language for modeling and for modeling requirements engineering for doing analysis. If you sit with a client, you can model their requirements. I came up with a mechanism for proofing the model that it's semantically correct. No one had ever done that before. That was one thing I did.

Another thing I did is I came up with a brand new requirements language called the URML, Unified Requirements Modeling Language. This is the language for modeling hazards, threats, which is very important, product lines as opposed to individual products, and then just modeling the requirements for systems. If you want to see one of the talks, you can go to YouTube. I believe that one or two of my talks are on YouTube. I've done research in other areas, too.

The other thing I did was I came up with a formal methodology for capturing requirements. Up to that point, people had come up with, well, you sit in a room, talk to people and you capture. I came up with an end-to-end methodology, from beginning all the way to the end, and mechanisms for handling different situations. Those were my contributions, and so I have a lot of people cite me in their work. I don't write papers anymore though. The last paper I wrote was 2014. This summer, in July, I did go give a three-hour tutorial on requirements engineering in INCOSE in Washington, D.C. I like the tutorials because they get free registration. Seven hundred dollars is a lot of money, so I wouldn't go if I didn't get free registration.

KR: In our first session, you talked a little bit about your middle son.

BB: Jason.

KR: Would you like to share about your oldest and your youngest?

BB: My oldest son, Marc, he [is] very analytical, very intelligent, a lot smarter than I am. Actually, all three of them are smarter than I am, but that's beside the point. He did very, very well in school. He was in the Cub Scouts and the Boy Scouts. I took him on a hike in Gettysburg and we went to Gettysburg together and we camped out at Gettysburg. He, being the oldest, was least impacted by my ex-wife's behavior. He was the least impacted.

He was in high school, and he was in the Odyssey of the Mind program. In the Odyssey of the Mind program, he and several of his friends would have a project and they would put things together and it was super. It was ideal training to be a scientist or an engineer. Then, he did so well that he went to the finals, the world finals. He did beautifully in that, very smart young man.

He does really well on his SATs, and he gets a free ride to NYU [New York University]. NYU is not a cheap school. What is it? 45,000 a year or something like that? I had to pay for his lodging because he was living off campus. They kick you off campus. He was there the first semester, and they kicked him off campus. Then, for some reason, he got derailed. He just started to go for PETA and for cruelty to animals and occupying the president's office for mistreating animals and stuff like that. He got kicked out of NYU. The way I found out is I got a letter. I thought it was for me because I saw, "Berenbach." I opened it up, and it said, "Dear Mr. Berenbach: you've been expelled from NYU and we never want to see you here again." That was my introduction to that, and I was beside myself. We'd spent a lot of money getting him in there, and I was paying eight hundred a month for his rent. His whole future was in jeopardy. [Editor's Note: People for the Ethical Treatment of Animals (PETA) is an animal rights group.]

My cousin calls up and says, "Can Marc come up and be a programmer for me?" It was a start-up in Boston. That works, he went up to Boston, was in the start-up. The start-up never failed. When the other dot-coms went bust, his never went bust. One of the reasons it didn't go bust is because the guy who owned the company, I think he was from Apple, and he was one of the people who walked away with a billion dollars in stock or something like that. Basically, it was a pet project for him. He could afford to support the company.

KR: What company?

BB: I think he was with Apple. Oh, the name of the company that my son was with? ChoiceStream, initially ChoiceStream. What they did is they did the software--if you're watching something on the web and an ad pops up, they're the ones who figure out what you might be interested in. Well, it's like a Bayesian network. If he's interested in this and he's interested in this, then he's probably interested in this too and they pop it up. He did that for quite a while.

Then, I had a friend at Siemens who left and went to Microsoft, and he kept telling me about how they weren't going anywhere and the company was shrinking. John Hartmann was the guy's name, my friend. He was at Microsoft. I said, "John, can you do something for my son?" He got him a job at Microsoft, and he didn't even have to move. They had an office in Cambridge. He worked there for a while. He was working on Office, and he didn't like that because he was doing a lot of maintenance of the Office product. Then, eventually, he went to Vistaprint. He did really well at Vistaprint for a few years. Now, he's with Facebook. That was progression. Along the way, he picked up a wife and stepdaughter, and he's doing very well. His wife does well, too. She's in charge of the liquor licenses for the State of Massachusetts, so she does pretty well, too. They have a thirteen-year-old daughter.

KR: I am curious, it has been a rough week for Facebook. [Editor's Note: In March 2018, news outlets revealed that Cambridge Analytica had misappropriated the data of millions of Facebook users before the 2016 presidential election. In July 2018, after issuing its second quarter earnings report, Facebook stock plummeted.]

BB: Yes.

KR: What has your son said about that?

BB: He said it's a good opportunity for him because the stuff he's working on is the stuff to fix the problems that they have, security, finding who the bad apples are and kicking them out of the system, so that's what he's working on. He said his project is set to last ten years. Zuckerberg is still wealthy and Facebook is still making money, all having said and done. He's very happy. He thinks he's got at least ten years of job security, so he's happy about that. I'm going up to see him on the 9th, which is his birthday.

KR: What about your youngest son?

BB: Joshua was the one--now, this is only my personal opinion--that was most impacted by my first wife's erratic behavior, so he had a lot of difficulty later on. He resented authority. He was a troublesome child. I remember going in and talking to the teachers about him. When he was in Hebrew School and he was drawing pictures, he would always draw pictures of death or things related to death. I remember for his bar mitzvah, we did t-shirts, and his t-shirts had Mr. Death on it with scythe. It was a kind of Halloween-ish type of theme for his bar mitzvah. He went to college. He went to Montclair. He got into Lesley, which I think would've been so much better for him and he wouldn't have gotten lost in the shuffle at Lesley, but the problem was I couldn't afford 45,000 dollars a year. I just could not afford it. I wasn't going to sit there and saddle him with debt.

He went to Montclair, and for a while, he did okay. He became more and more erratic. He couldn't get along with any people in his dorm. He said, "Dad, can I live at home? I can't get along with them. They don't understand me." He's not a social person. He cannot get along with other people. He has a lot of difficulty. He explodes. He's very surly at times, but he's coming out of it now. He came back, and he lived at home. He commuted. I bought him a car. He commuted. Then, in his fourth year, he said he suddenly realized that he couldn't graduate.

Then, I said to him, "What do you want to do?" He had this thing about how wonderful it was to be blue collar. He had this great admiration for blue-collar people. I think his friends were all blue collar. Blue-collar people can be smart, but they were all blue collar. So, he decided he wanted to be blue collar. I said, "What would you like to do?" I took him around to all of the technical schools. I took him to Lincoln Tech. I took him to some of the others. We went to medical, medical technician, we went to HVAC, heating and air conditioning.

He settled on heating and air conditioning. It was a 20,000-dollar one-year program. I paid half; he paid half. I took out loans and he took out loans, and then he went into the program. He had straight "A's". He had a perfect score. He was the highest person who graduated. After he got out, he had trouble getting work. Finally, he was working with plumbers, and he didn't like it because he was going into basements. He got work doing controls, and he did that for a while and then he didn't like that. Remember I said he was not too stable. Finally, he went with Energy Options, where he did control systems, revamps, all commercial, new building and stuff like that. Initially, he loved it. Then, what happened is over time he realized that he was getting up at four in the morning to go into New York City, and then he was working all day by himself and that they were dumping on him. They were very cheap. Jobs that required two people, he was doing them by himself. He realized it wasn't for him, and then he started to look elsewhere. This was only very recently he finally said, "Okay, that's it. I can't do that anymore." He got so upset once he actually put his fist into the dashboard. He was so frustrated driving into New York.

Then, he got a job--he lucked out--he got a job finally. He works for a contractor that does all of the maintenance for Merck. They used to be Merck people and then Merck basically went and hired a separate contracting company to handle all that and he's with that contractor. He's very happy because he works fifteen minutes from his house. It's all nine to five. The people go out for coffee; they relax. When he has to work, he works. He doesn't have to do anything stressful, and he says he's enjoying it very much. He's always a downer, always a downer. Now, the thing is, "Well, obviously, it's going too well. They're going to lay me off. Things are going well. They're going to lay me off. He can never see the positive side of things. It's always the negative side of things, but he seems to be doing very well.

He started going back to school. He went to Thomas Edison, and he took a C course and it really wasn't for him as an intro course because it's very difficult. It's for people who've been doing it for a while and you go back and take it. He didn't do very well, and he dropped out of the course. His hobbies are just basically playing video games. That's his hobby. He goes fishing, which is good. He goes hiking occasionally with his friends, which is good. He really needs to get out. He seems to be okay. That's my youngest and my oldest.

KR: What role did religion play in the upbringing of your children?

BB: Well, so all three have gotten bar mitzvahs. Marc, Jason and Joshua, they all had bar mitzvahs, and that was another one with my ex-wife. There was a big argument. I wanted to do Reform. She wanted to do Conservative. The problem with Conservative was the number of hours a week it took. They had to go to school like three days a week and they all hated it. They

all hated Hebrew School. They did not see the value, although when Marc graduated, when he got his bar mitzvah, he continued into Hebrew High School and made friends. Jason and Joshua walked away from it first chance they could and haven't been back in a temple since. In fact, Jason is indifferent. Joshua is anti. So, if you say, "Josh you'll come to temple with me this week?" he'll actually get angry at you and start yelling at you for asking him.

KR: What temple were they bar mitzvahed in?

BB: Neve Shalom, which was a Conservative temple. The program was too heavy and these kids were working. They had regular school and it was too much. I knew it wasn't going to work, but my ex-wife was a screamer and it had to be that. It had to be that temple. It couldn't be any place else. Even though she had never gone there, it had to be that temple. So, I wanted to do the Reform temple. Now, my oldest son, his wife is not Jewish, and their daughter is not being raised Jewish. Basically, as far as Judaism is concerned, that's probably the end of the line for them. If there's a wedding or a bar mitzvah or something, they'll go, but other than that, they won't set foot into a temple.

KR: How long have you been going to Temple Emanu-El?

BB: Ever since I got married and my wife came to live with me, my second wife came to live with me. She was a member of a Reform temple in Rutherford and she loved it. Her sister, who lives in Rutherford and her sister's partner, were also members of the Reform temple. She had family there. She knew the rabbi. She was in the chorus. She was having a wonderful time there

When she married me, grumble, grumble, she came down to Edison, and so we looked for something that was comparable. She went to Temple [Emanu-El], and she liked it there. Now, she's in the chorus. She knows a lot of the women there, and she tends to have a good time and she goes. Sometimes, if she's doing a special program, I'll go, and the reason I'll go is to give her moral support, not necessarily because I want to be there. I'll go to give her moral support. They have a new cantor, so I'll see how it all works out for her. As far as my kids are concerned, end of the line, no more Judaism. Maybe down the road, who knows, but right now, that's it for them. None of them have expressed any interest in Judaism at all.

KR: How did you meet the woman you are married to right now?

BB: I went to a Jewish singles event Sunday morning, lox and bagels, singles brunch. It was in Clinton. I went up by myself. I went two or three times, and I hadn't met anybody. I went on one or two dates. I did not have a good feeling. I went to one, the last one I went to, I said, "If I don't meet anybody or I don't have a good time, I'm not going anymore. It's not worth my time." I went to it. Susan was there, and it was the first time she had gone to it. I was on the other side of the table. One or two other people were talking to her, so I started talking to her about Harry Potter because she was a big Harry Potter fan and I'm a big Harry Potter fan. Then, she said, "Well, I want a dance." I said, "Well, if you want to dance, I want to dance." I ran out and started dancing with her, and then I just said, "Okay, let's go." Then, we went on a couple of dates, and then we got engaged.

KR: How long have you been married?

BB: We have been married since 2011. We keep joking. We should have gotten married on 11-11-11 is when we should've gotten married. The problem is she couldn't get the hotel or something, or she couldn't arrange the date. Instead of being married on 11-11-11, we got married on 11-12-11.

KR: Okay. [laughter]

BB: We got married. Originally, she had a rough time. The thing was that she was complaining she had lost all her friends, but she would've lost them anyway because they all moved out of the area after she moved. They all disappeared anyway, and she's closer to her sister in Philadelphia than she is to the sister who lives in that Rutherford area. The sister in Philadelphia is now an hour closer to her. In that respect, it worked out. She goes to chorus. She plays Mahjong. She goes dancing in the morning, does line dancing at the community center. She does Tai chi. She needs a social secretary. We belong to the local Metuchen Swim Club, so we go to the swim club and she's always meeting women at the swim club that she associates with. She's now happy where she is.

The other thing that was happening was I was paying 1,400 dollars a month in alimony to my ex-wife. I made a deal with her. I finally said, "I can't do this anymore." I made a deal with her, and I did a buyout because my wife was complaining, Susan is complaining, "It's my house, not her house." So, we made a deal. I did a buyout of my ex-wife. Susan gave me some money; I put in some money. We gave my ex-wife a lump sum amount of 150,000 dollars, which was what her value was worth. She had a good lawyer to help her make sure she got value for the money, and part of the agreement was no more alimony. So, that worked out for me. I would be paying alimony for the rest of my life if I hadn't done that, and she was willing to do it. The fact that it was not Susan's house, she was not part owner of the house, and the fact that Josh was living in the house, it was kind of rocky initially. Then, finally, Joshua's out of the house, and we put the house in both our names. She's got friends. She's got family. She's only an hour and a quarter from her sister, and we do things with them. In fact, we're going on two European trips with them, and I like my brother-in-law. He's a really nice guy, so we get along really well. She's finally doing okay, and so it looks like we're doing okay right now. We have your troubles like any other married couple has troubles, but in general we're doing fine. She now has a lot more friends than she ever had at Rutherford. She's busy every night of the week. I have to ask her, "Are you busy tonight?"

KR: In session one, you talked about going to, I think it was, Illinois to go visit your uncle.

BB: Yes.

KR: When you were a kid, and your uncle was the very renowned chemist, Samuel Natelson.

BB: Correct.

KR: What anecdotes can you tell me about your uncle from that particular trip and other interactions that you had with him?

BB: My uncle Sam was a very unique person. He said what he thought, no filter. He used to insult people left and right, and he used to tell these stories that weren't true. I remember one incident in Chicago, when he was in a lab in Chicago, when I went to visit him, he took me into the lab and he introduced me to a post doc that was working under him. He said to me, "This man is a complete idiot." He's saying it to his face. "He has no idea what he's doing," he went on for a half an hour just raking him over the coals, and this poor guy's face was getting redder and redder and redder. He would do that to people. He would do that to people on occasion. He would also do it to me. He would occasionally ask me questions. I told you about when I was a child, about him watching Paladin and him not wanting to help me with my calculus, things like that.

I went to visit him when he was playing chess, he'd be playing chess with his buddy in the chem lab in Brooklyn. Also, he wrote a book, *Micro Techniques of Clinical Chemistry for the Routine Laboratory*. In the book, on the inside cover, there's a picture of a nurse doing some analyses. I say, "She's pretty." He says, "Yes." He says, "She got married because of this book." [laughter] Someone liked her and eventually she got married.

The doctor's name that he worked with, the doctor's name was [Albert] Sobel. My whole family was anti-Sobel, but I think they had a tendency to exaggerate. They said that Sobel had stolen his invention, this and that. He came up with a way for testing unborn children in the womb to see if they'd be born with down syndrome. He came up with a lot of those tests. He was the inventor of styrene, which he never got a penny out of. He had the patents for it but because when you work for a company and you file a patent, the company owns the invention.

KR: What is styrene?

BB: Styrene is a basic plastic that's used as a building block for all the other plastics. He retired a fairly wealthy man. He was able to put two sons through medical school and one daughter through her Ph.D. in linguistics, so he was able to do that and he was able to retire comfortably, until he came down with dementia.

I remember seeing him and he would always be insulting people. Once, when we were in Brooklyn, we went to a court to play tennis, and he was with his middle son. The children were Steven, Ethan, then Lisa, then Nina. That was the order they were born. He was with Ethan. We went to play tennis. I was like 5`5", 5`4". They all towered over me, because my uncle was very big physically. We're on the tennis court, and for absolutely no reason, he starts insulting this tennis player and they get into a fistfight. Here you have this award-winning chemist getting into a fistfight with this guy on a tennis court. My cousin chimes in and starts hitting the other guy, and eventually they break it up. I was just in shock that they would do this kind of thing. The other thing is what they had started fighting about is absolutely trivial. I would never had done that. I thought it was just nonsensical. This macho stuff was coming out, and it was just crazy. My uncle would insult people.

He also had some very famous people at his house. I didn't see them. I got told about it second-hand, like president of the Chemical Society and stuff like that. I remember him climbing in through the window once in Brooklyn because he couldn't get through the door, so he just climbed in through the window. [I remember] him telling me that my father was funny. Of course, I didn't think my father was funny at all, but he thought my father was funny because when he was tipsy he would be funny. I don't know how you would describe that.

I can't tell you too many more anecdotes about my uncle, except that he seemed to like me. I remember when I was out in Rockford, Illinois visiting him, he bought me a BB gun, which is not normally the present you get from somebody. He knew that I liked firearms, and once he took me out. He had a friend, I don't know where, he took me out and they let me shoot a pistol and a rifle and stuff like that. For me, that was absolute heaven, getting to shoot a pistol, things I had only heard about and seen watching TV that I had never done myself.

KR: Is that how you got into your interest and eventually joined the rifle club?

BB: No, what had happened with the rifle club was that I had a BB gun, and I used to shoot it in my basement. I'd shoot a BB gun in my basement. What I used to do is I had a Daisy [model BB gun] and I would put matches in the BB gun and shoot it. It would hit a stonewall, and then it would go poof and explode. I really liked that. I used to shoot at very small things with the BB gun, like bottle caps.

Then, I went to high school, basically, I don't recall ever doing anything much. Maybe when I started college, I bought an Army surplus rifle. I belonged to a rifle club when I was in college. I used to go to Fort Hamilton and shoot on the rifle range, shoot on the three-hundred-yard rifle range. Then, when I was at Brooklyn College, I joined the rifle team, so I started to shoot on the rifle team. It was all natural for me because I had been shooting as a child, shooting BB guns. [We were] shooting at Fort Hamilton, shooting rifles at Fort Hamilton. This was very demanding. They wrote an article about me in the Brooklyn College [*Kingsman*]. You saw the article. [Editor's Note: Mr. Berenbach is referring to the article entitled "Home on the Range," published in the *Kingsman* on November 9, 1962 about the varsity rifle team at Brooklyn College.]

KR: You shared it with us, yes.

BB: Yes, the article. I was pretty good at it. When I left, when I eventually went into the service and I was stationed at McClellan Air Force Base, I became the captain of the rifle team at McClellan Air Force Base.

KR: Almost Olympian.

BB: Almost Olympian, actually I don't regret it. I really don't regret it, not having gone. I think that Olympics might have been a downer for me really.

KR: You said it was the Munich Olympics.

BB: It was the Munich Olympics indeed, yes, yes. [Editor's Note: The Summer Olympics of 1972 took place in Munich, West Germany. In the second week of the Olympics, on September 5, Palestinian terrorists stormed the living quarters of the Israeli team, killing two Israelis and taking nine hostage. In a shootout at the Munich airport, nine Israelis were killed, along with one West German police officer.]

I did shoot on the rifle team and once I got to Japan, you couldn't do that anymore. As a captain, as a military officer, I had to qualify with the pistol. I went and I qualified with the pistol, and then I said to the guy, "Hey, this is the military. How about letting me qualify with the M-16 and with the machine gun?" He said, "I'm sorry, Sir, you can't." I said, "Why not?" He said, "All the ammunition's gone to Vietnam. We don't have any ammunition here, so you can't qualify." It was a military base with no ammunition. If we'd been invaded, they would've had a couple of .38 rounds and that was it. There was nothing. They had no ammunition. That was that.

KR: I want to follow up on something that you just said. When you were at Yokota, the Vietnam War is going on. You mentioned before visiting the hospital and seeing the soldiers who were wounded. You mentioned there were a lot of African American soldiers. What else was going on at Yokota that was related to the war in Vietnam?

BB: Well, it was a stopping point for people who were going to go to Vietnam, and it was a place where the military pilots would come to rest occasionally. On one occasion, I was in the officer's club in the evening. I was sitting with some F-4 [Phantom fighter-bomber] pilots, F-4 Air Force pilots, and they were telling me how much fun it was when they had these free-fire zones. They were allowed to shoot at anything, how they would go and shoot the cows in the field and shoot the farmers and stuff like that because it was a free-fire zone, so that made it legal for them to do that. I was absolutely horrified. I would not say anything to them, but I was absolutely horrified about what they were talking about.

I never once heard anybody say that we were winning the war. What I did hear occasionally was frustration about why the hell are we fighting this war. What is the point of fighting this war? This war has no value. For me, it was okay because I wasn't involved in the war. I was involved in monitoring Russian and Chinese nuclear tests and the compliance with the [Nuclear] Test Ban Treaty, which had been signed. We're monitoring Russia to make sure that they complied with the Test Ban Treaty. I think all their tests had to be underground or something like that. I would see enlisted people frustrated.

The other thing was that the war, there was an indirect impact of the war that people don't talk about. That was all these youngsters, who would have gone on and lived normal lives, were spending anywhere between two to six years in the military, which is something they normally would never have done. In my outfit, all the enlisted people were college dropouts. They were all college dropouts. You're going to college, you have a deferment; when you drop out, you get drafted. They were all on the verge of getting drafted, and so they had a choice, carry a rifle in Vietnam for two years or join the Air Force for four years. So, they would all join the Air Force, which was logistics work. Very rarely were you involved in any kind of combat. Some of them did fly combat missions as crew, but the helicopters were all Army. They weren't Air Force. So, I never saw the helicopter pilots. I never saw them. So, I would also see wounded people being

shuttled in and out on helicopters and planes to the hospital, and then from there, that's a way station, then they're on to the United States. People were [in] a place where they did not want to be in a time where they did not want to be there doing something they did not want to do for four years of their life. Nearly as bad as going to jail but not quite. Some people opted to go to jail and some opted to go to Canada, and the ones who didn't, who didn't want to carry a rifle, they went for the Navy or they went for the Air Force. The Coast Guard, the line to get into the Coast Guard, there was a three-year wait to get into the Coast Guard. The first thing everyone wanted to do was get into the Coast Guard because nobody wanted to fight that war, nobody. Even the people who were patriotic didn't want to fight it. For me, it was like four years taken away from me, although, in retrospect, it helped me with my career [and] it was an interesting experience.

When they give veterans stuff, I don't think they can ever give veterans enough stuff. If you take four years out of a person's life, what would it be worth to you to have VA benefits, to go into a place where someone is going to shoot at you and maybe you're going to lose an arm and a leg, and you're going to be there for two years and maybe get very ill. Like I said, I came down with [mononucleosis]. What is it worth to somebody to do that? That was the other thing that made me very angry. I'm getting on a rant here. You should stop me. Well, let me just say one other thing.

KR: Sure.

BB: In World War II, every veteran who came back was given GI benefits, given enough to go to college and get a college degree. In the Vietnam War, Ford, President [Gerald] Ford, vetoed bills to that effect for returning veterans on the grounds that it was too expensive. The thing about Ford is that he had gone to Yale and gotten his law degree on the GI Bill. Talk about hypocrisy. So, that was just a personal thing. I remember that from being in the military when that happened.

KR: When you got sick, did you have mononucleosis or hepatitis?

BB: Mononucleosis. I had mono, not hepatitis.

KR: I wanted to ask you about your visit to the hospital at Yokota. When you were seeing the wounded soldiers who had fought in Vietnam, what were you thinking? What were your impressions?

BB: Well, one impression is that they were mostly minority. That was one impression. Another impression was they were all depressed. That was another impression. They were not talking very much. There was no banter, if you can call it that. They were all very quiet, and I would say, all in all, it was a depressing sight. It was a depressing sight. I imagine it was a little bit like the movie *Forrest Gump*, where he's lying in bed and the guy next to him has lost his legs. It was not a happy sight. It was not someplace you'd choose to visit. That was my impression. I always felt that African Americans were getting the short end of the stick because they were fighting, they were rarely officers, mostly enlisted, and they were doing it so they could get VA benefits and go on with their lives and a lot of them had terrible wounds. Then, when they got out of the service and they went back to Louisiana or Mississippi or Alabama, it must have been

really hard on them to be treated like that. For me, going to the South, I was horrified in the South at the attitudes of the people. They changed over time, but all you've got to do is turn on the television to see that some of them haven't changed that much.

KR: You mentioned the Nuclear Test Ban Treaty and that the Soviets were supposed to be doing underground tests. Were you able to monitor underground tests and get the debris?

BB: Yes, yes, because you can't, talk about shaking, the earth moving, the earth moves pretty much, and a big pile of smoke and stuff comes out. Theoretically, they'll be nothing coming out, but radon is in your basement. I was able to go and track and I did a study, which was classified, could never be able to publish, that tracked the level of radon in the air with the yield of the weapon, in the air. You could say the more radon in the air, the more powerful the weapon was when it went off. Then, there was seismic. We also did seismic testing, but that was not my job. I was not on the seismic side. The other part of the idea is you checked that there is no radioactivity because if there's radioactivity, they're violating the test ban treaty. Theoretically, there's not supposed to be any.

KR: Were the Soviets complying with the Test Ban Treaty?

BB: Yes, they were, they were, which is one of the reasons that it's held to this date.

KR: Where were the Soviets doing their underground tests?

BB: Manchuria. Everything was being done in Manchuria. [Editor's Note: Manchuria is the northeastern region of China.]

KR: In Kazakhstan? [Editor's Note: The site of the most Soviet nuclear tests occurred at Semipalatinsk Test Site, also known as "The Polygon," in Kazakhstan. Other tests occurred on islands north of the Soviet mainland in the Arctic.]

BB: I believe so, that area, yes, yes. Then, the U-2s would fly around and capture the pollutants and bring it back or check for no pollutants. The thing was you can't hide that stuff because you want to get it really early if you want to get the really hot isotopes that can tell you about the weapon, but even after it's died down, that stuff is potent and it's going to float. Remember when the Russian reactor exploded.

KR: Chernobyl. [Editor's Note: The Chernobyl disaster occurred in April 1986, when an accident in the nuclear core of the Chernobyl nuclear power plant resulted in uncontrolled reaction conditions and then an explosion. Widespread contamination of the area resulted, and the town of Pripyat, Ukraine is still abandoned.]

BB: In Chernobyl, and all that stuff came over and then there was cesium in milk and stuff like that. You can't hide something like that. If anybody sets off a nuclear weapon, you can't hide it. I imagine right now that my old outfit, which is near Cocoa Beach, Florida, must be having a field day monitoring the North Korean tests. I think I told you I visited. We had a reunion, and I visited the outfit in Cocoa Beach. I was taken around and treated like a VIP [very important

person] and chauffeured around and all that stuff. We had a good time. Susan came with me when we did that. It was a lot of fun.

KR: Well, I have reached the end of my questions, and I wanted to ask you if there is anything that you want to add.

BB: Yes, well, this is all political stuff, but I'll add it in anyway. The thing is in systems engineering, what you say is, "If I am going to build this system, what are the outcomes going to be? How can I measure that we are achieving these outcomes?" One of my big complaints with the Congress is that it's all lawyers, and nobody says, "If we put troops in Afghanistan, what is the outcome we're expecting? How are we going to measure whether or not we're achieving that and how about pulling people out?" What the Congress basically does is CYA [cover your ass]. They do things based on emotion. They have absolutely no technical analysis to determine whether they're doing the right thing, or in the case with the Ellsberg papers--I don't know if you saw the movie, *The Post*--in the case of the Ellsberg Papers, when they find results which are contrary to their political beliefs, they bury it. A really good example of that is the Laffer Curve, the idea that if you make rich people richer, poor people will get richer, too. Well, it's complete nonsense, and yet they're doing it today. [Editor's Note: In March 1971, Daniel Ellsberg leaked parts of a top-secret Defense Department study about the Vietnam War to *The New York Times* and later to *The Washington Post* and other newspapers. These documents are known as the Pentagon Papers. *The Post* is a 2017 film about the publication of the Pentagon Papers in *The Washington Post*.]

I would basically apply that to the wars in Iraq, Afghanistan, and when President Bush went into Iraq the second time, the younger President Bush went into Iraq, he had absolutely no plan for getting us out. He had absolutely no plan for ending it. There's got to be some way of doing that, and I've complained on occasion that lawyers don't think like that. Lawyers don't think in terms of outcomes and measures. Scientists and engineers think in terms of outcomes and measures. We need more engineers in the Congress. That's what I'm saying. This is going to keep on happening over and over and over again until the U.S. Congress and Senate comes to its senses, and we're going to have Vietnams over and over again.

The only positive thing I think that came out of Vietnam was the fact that the draft ended, and God forbid someone should ever think about starting the draft. The only thing stopping the politicians from going half-cocked into a lot of crazy wars is the fact that we don't have a draft and we're not going to be able to start one. That, they've blown. The only way they're going to be able to build up the military is by printing money, and then you're going to see fifty percent inflation. That's my feeling about Vietnam, that the only positive thing that ever came out of Vietnam was the end of the draft. I would hate like hell to see something like that happen again.

I think I may have mentioned to you [that] Jason got into West Point, and, at the time, I was so sad that he had not gone to West Point. I was thinking purely in terms of money. I was being very selfish, but I do like the military. Then, when the Iraq War broke out just about the time he would've graduated, I was so glad he hadn't gone to West Point. I was so glad he had not done that. So, that's my feeling about that.

In terms of my son, for large universities like Rutgers and Montclair, I think that it's really important, when children start college, they're not grownups. They may be eighteen, but they're not grownups. You really need to one on one track them, sit down with them, say, "What are your plans? This is what you need to do to get a bachelor's degree in four years," and work with them. When schools like Montclair just take the kids and let them do anything they want and don't say anything, I think that's horrible. Then, you have people like my son who leaves the school after four years with no degree, not even an associate's degree, and I think that's a really bad way to run a show.

Scientists and engineers don't think like that. Outcomes, before you start, what is the outcome and what are the measures of effectiveness we're going to use to make sure that the outcome is achieved and when are we going to pull the plug if it looks like we're going in the wrong direction. I think that applies to just about anything in life. That's why I think that lawyers should be banned from Congress. I think Congress should be engineers and scientists, doctors, although doctors, you get some doctors who are crazy, but that's beside the point.

My uncle Sydney was a doctor before he passed away, and I remember once having a conversation with him when I was in Vietnam about the Vietnam War. I think I was on leave or something, and he said, "Well, we have to go into Vietnam to keep the Communists from taking over." I said, "Which Communists are you referring to? Are you referring to the Czech Communists? The Hungarian Communists? The Polish Communists? The Russian Communists? Or the Chinese Communists?" The point is each of these countries was individual and their governments were individual. That, we've seen that when Vietnam and China had a little fight, and Russia and China had a fight over Siberia and they went to war over Siberia briefly. I think this system where you have political beliefs and you act on a political belief with absolutely no facts to back it up, it's terrible. I won't talk about our current administration, but I think this applies. [Editor's Note: The Sino-Vietnamese War occurred in 1979 when China defended the Khmer Rouge regime in Cambodia, which Vietnam had attempted to topple. In 1969, China and the Soviet Union engaged in a limited military confrontation during a border conflict.]

KR: Well, thank you so much for coming in to do this oral history series.

BB: Thank you. I very much appreciate it.

----------END OF TRANSCRIPT----------

Transcribed by Jesse Braddell 8/20/2018
Reviewed by Kathryn Tracy Rizzi 2/9/19
Reviewed by Brian Berenbach 4/1/19