RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY

NEW BRUNSWICK

AN INTERVIEW WITH ARTHUR GOLDSCHMIDT

FOR THE

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INTERVIEW CONDUCTED BY

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TRANSCRIPT BY

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Molly Graham: This is an oral history interview with Arthur Goldschmidt on May 2, 2016 in Mount Laurel, New Jersey. The interviewers are Molly Graham, and I am joined by Joan Moscatelli.

Arthur Goldschmidt: As far as growing up is concerned, my father used to have a radio repair shop.

MG: Before we get into that, can you just say when and where you were born?

AG: Okay, I was born in New York City [in 1925], but my first home was in West New York, New Jersey. My father had a radio store there. One of the things that he did, and he never tried to get it patented or anything, but the console radios in that time had three knobs that it had to tune in order to hear and get the station, so he figured out a mechanism so that if you turned one of them, they all turned together so that there wasn't any need for that. Of course, when the depression hit, he gave credit to people who were working for the township, and when the depression came, the township couldn't pay them, so they couldn't pay him. It was very common at the time for the landlord to allow staying in the business for a few years, because it wasn't going to cost him anything. Otherwise, they'd just have an empty store there. Anyway, his landlord wouldn't give any more than six months. We moved to New York, at the time, to the Bronx, not far from the Bronx Zoo. [Editor's Note: The economic downturn known as the Great Depression began after the stock market crash of 1929. Industrial production fell by half. By 1932, there were over thirteen million unemployed Americans. The effects of the depression were felt by many Americans until mobilization during World War II stimulated economic growth and created jobs.]

When I was growing up as a small kid, playing out in the backyard, in the back of his shop, if he couldn't find a tool, he'd come out there and I'd probably be playing with it. This is the way I started out. I knew from the time I was about ten or eleven what I wanted to do as a vocation, which is pretty rare for people. Usually, they say they can't find themselves. Well, I found myself early. I started high school when I was twelve. I went to a school in Brooklyn, New York. It was called the Brooklyn Technical High School. This had twelve stories, two broadcasting stations. One of the broadcasting stations was the backup station for WNYC, which was a city station, and also WNYE, which was the only Board of Education station. I worked there, not for any money but for experience.

It was the only high school in New York City that required an entrance exam, so I managed to make it. They had a course, a college preparatory course, and that's the one I needed to take. I took it for six months and then changed over to electrical course, because I didn't think my parents, I'm sure they weren't able to pay for this. It was a fantastic school, in that the first term was a course in industrial processing, and the next one was making a pattern out of wood with the fillets and so forth, so you could withdraw it without tearing the sand apart, the sand casting. After that, we would make the mold, and then the next term, we'd actually pour, next term, we'd machine it. I learned to use machines very early and to set them up. I even have a machine shop in my basement today. After I retired from RCA, then I got a job as a top-level machinist, even though I had never worked at that but just from what I learned in high school.

In fact, I learned more in high school than I did in college as far as these are concerned. In college, they had an instructor there, this guy was nuts [laughter], he wrote the text himself. His

question on Fridays was only one question, write everything. Basically, what you needed to do was to recite verbatim what was in the text, and the usual test for the term was, "Write everything you learned this term." You were expected to go from the beginning of this book word for word and keep going until the time ran out. When it came to my turn, even though I knew what was going on, I was so excited that I couldn't think, and of course, I didn't do too well on the test. Also, for the final test, the annual, well, semi-annual, instead of giving us the question, "Write everything you learned this term," and we never had a problem to solve, we had problems, guess what he gave us. The average mark on the test was forty, so we had to raise it up to a minimum of sixty-five. You know, you're just passing with a "D."

There was also another math instructor. He had something called IAs, industrial aristocracy. If you couldn't do the test or didn't want to, no problem, solve the problem, but if you did and got it right, you'd get extra credit. There was one time when a fellow in the class complained that he got the right answer, why'd he get marked down. This instructor goes up to the blackboard, takes something like a six or eight-digit number, multiplied by a six or eight-digit number. I don't know how he did it. I don't remember. He just did, but he comes up with the right answer. The guy shut up after that. [laughter]

Also, in college, I was, for three-and-a-half years, I was the engineering school editor. We didn't have a photographer, so I doubled as the photographer with a street graphic camera, which was the ones that the newspaper people used with plates rather than film. We had a professor called Professor (Wolf?), and if you questioned the mark that he [gave] you, you would get a lower one. He was that kind of guy. There was a dog that wandered into the electrical lab one time, and I told the guys to hang onto him, keep him there. I ran for the camera, put his feet up on the bench, and took a picture of it and printed that in the next issue. It was the April fool issue, and people didn't know it was April fool because we hadn't had that for many years. Well, the news story read that Professor Rover treats his students like sons. [laughter] He left at the end of that term, and I hope I was the reason for it. Another thing I did for that issue was to lie flat on a desk with my feet straight up in the air but not seeing the shoes and printed it upside down, so it looked like I was holding a desk on my back. [laughter] I think I might still have the issue at home. I'm not sure, but the paper is probably crumpled by now. Everybody was glad to see him leave.

MG: There are some things I want to go back to before we get into high school and college.

AG: Okay, sure.

MG: I was curious if you could tell me more about your family history, starting on your father's side.

AG: My father was in World War I. I was in World War II, and my son's retired Navy.

MG: Where is your father's family from?

AG: That was another interesting thing. My father's parents were born in Germany and came over here. They were [naturalized and] made citizens. Then, they went back to Germany for a couple years, and he was born there. In the military, they ask you where your father was born, and I used to tell them a few times that he was born in Germany but this story. Finally I said, to hell with it, "He was born here." My father was a pretty smart guy. He only had two years of

high school. He could've been a high school teacher, teaching repairing radios. By the way, he taught himself to repair radios himself. He only had two years of high school. His father was an engraver. My mother and father met because my mother's parents had a jewelry store, and he would go pick up the jewelry in order to have his father engrave it and so they met that way. He used to go out campaigning. He was very good in the base. He used to go campaigning for people who were running for office, and he was a pretty smart guy.

MG: What was his political affiliation?

AG: Don't remember. It goes back a way. There was a time when, I don't know whether it's still the same thing now, but Jewish people always wanted to visit Israel before they die. My sister and I got enough money together to pay for a trip over to Israel, but there was a hitch. You had to be a citizen. In those days, the wife took on the citizenship of her husband. This was after my father had died. By the way, he died after a number of heart attacks. I was talking to him on the phone for his last heart attack, and he died while I was talking to him. In fact, when there was no answer for a while, my mother, who was in the store, called a friend to go over to the house to see what was wrong. It was an apartment. To open the door, he had to push my father out of the way, because the phone was right by the door.

I consider him a German authoritarian. It's either his way or the highway, that kind of thing. The heart attack before the fatal one, he was in the hospital. My wife, at the time, we were divorced sometime later, but she was working for a doctor who worked for the Veterans Administration, and she arranged, because my father wasn't getting better, [for a doctor] to go and visit him, examine him. The doctor told the hospital that my father wasn't supposed to be examined by anyone but a hospital employee, which this guy wasn't, but somehow he managed to get in there. It turns out that my father's doctor was letting [the] water build up, which is a bad thing as far as the heart is concerned. When I saw my father the next time, and I used to visit quite often, he said, and this is a quote, "I hired him, and now I'll fire him," that kind of thing, not saying thanks or anything else. If I said, "Damn," I'd get my mouth literally washed out with soap. That didn't taste too good. Also, he used to hit me, not in the face or anything, spank, whatever, not intending to hurt but to punish. This was the way of punishing in those days. Well, finally when I was sixteen, he started to hit me, I grabbed his hand. It kept him from doing it. He knew I was strong enough by that time, and he never tried it again. He loved me very much. So did my mother. There wasn't any problem there. There was one time when my sister was pretty full from eating something. I asked her what she was full of, and she said, "Bologna." [laughter] I knew what the answer was going to be, and I just did that. I was that kind of guy. [laughter] I have a handkerchief here somewhere.

JM: I don't have a clean one, I'm sorry.

AG: Yes.

MG: What about your mother's family history? How did they come to settle in the New York area?

AG: My mother's family, they were born in Hungary, and they came over here and were nationalized also. My grandmother, when we were playing a game of cards, would cheat very obviously. We'd laugh. [laughter] It was really great. No one in my family, on either side as well, had lived past sixty-nine, and people have asked me to what I [owe] my longevity. I said,

"For one thing, I have a good immune system, and the other is I blame the VA [Veterans Administration] for keeping me alive." [laughter] That's pretty much the way I feel. I never thought I'd live past eighteen at first, and in the military, I almost didn't. Something like six times I could have been killed, and I'll go through some of these later. As far as the family is concerned, my mother's family was, well, they were in the jewelry business. One of my uncles on her side was very good at cartooning, and he actually painted the cellar with cartoons like Mickey Mouse and so forth. It was pretty good. He also invented at the time, I don't think he ever tried to patent it, when you buy skeins of wool for knitting. Instead of making a ball out of it, what he did was put it on a device that would turn as you pull and make it easy to make the ball. He was pretty knowledgeable. Also, he used to make custom jewelry from my grandparents' store.

JM: Oh, wow.

AG: He was quite a guy artistically. He died at, I think he was about sixty. It must have been heart, because he had a pain in his left arm, so it turns out to be a heart attack. Also, I had in the same family an aunt who died at something like fifty-one or two, and she died of a heart attack also. I asked a doctor about that, and he said if she didn't panic she probably would have lived. At that time, I taught myself not to panic, and I can control myself that way. In fact, one time when I was getting real pissed off in the group, (Chris?) asked me if that's what I was doing at that time because I was forcing myself not to panic ever, not to get panicked around there. What else about my parents?

MG: You mentioned how they met, but I was curious when they were married.

AG: Oh, I sort of skipped by that. They were married in, I guess it must have been about '21. I think it was September of '21. There was a law indicating that women took on the citizenship of her husband, even though she was born in this country. The ruling changed in September of the year she was married, so that was a few months after. She lost her citizenship there. I had to prove to get her a passport in order to go to Israel, we had to prove that my father was a citizen, and that was quite a job. Finally, it turns out that one of my father's brothers had the papers at his house. He was in the hospital. This brother was in the hospital at the time, and he told his daughter where the papers were and she couldn't find them. Finally, at the last minute, just about a week before the trip was to leave, she finally found them just where she was told. [laughter]

JM: Wow.

AG: We were able to clear that up, but it was quite a job because we tried tracing it through the fact that he used to go campaigning for people running for office and so forth. It was a job to try to do that. Finally, it was cleared, and she went over. I think she spent about a month there. Much later, my wife and I also went to Israel after I retired and spent five weeks there. One interesting thing is that they have to carry their weapons with them there in Israel because they get attacked so much. It's a small country surrounded by large Arab countries. Everyone has to keep their weapons with them, so they're ready to fight at any time. We stayed at youth hostels, and I used to lead bicycle trips with the youth hostels. My wife used to lead walking trips in New York City. I'm skipping all over the place. I hope it's all right.

The way [my wife and I] met was that she had been on a ski trip and fractured her right ankle, so she couldn't walk. A friend of mine, a common friend, met her, and we carried her in a cross-

armed carry and went to a little place in New York City in Greenwich Village. We found out that we both like raw hamburger [steak tartare]. [laughter] That was the end of things for a while. Then, she gives me a call one time, and I know it sounds ridiculous, she gives me a call one time. She was running a trip to Jones Beach on Long Island, and the only reason she called me was that I was the only one that she knew that had a car. Nobody showed up; it was a raw day. I forget what time of year it was, probably the fall. We were walking along the beach and noticing the trail that hermit crabs make and just enjoying nature, and we started to date after that.

JM: Well, the things hamburger will do.

MG: Very romantic. [laughter]

JM: I was going to say that. How romantic is that? Especially raw.

AG: We found out that we had a lot in common. She also was going for a master's in anthropology, and she actually did end up with that. In order to gather the material, she went up to Newfoundland. It was an Indian tribe up there, and one of the Indians wanted to marry her. He proposed. I seem to be attracted to people with brains. [laughter] I don't know if it's always that way, but that's the way it was with us.

MG: Let us get back to growing up and family history.

AG: Yes.

MG: What about your father's World War I experience do you know about?

AG: All I know is that he wasn't in there very long. I suspect it was the end of the war, and that was basically it. I don't think he ever saw any combat.

MG: Was he in the Army?

AG: Army, yes.

MG: Were you close with your grandparents growing up? Did they live in the area?

AG: No, in fact, there was a problem there between my mother and his father. She didn't go with us when we went to visit once a week. We kept a kosher home mainly because my mother's parents were religious. If we'd go out to eat, we'd go to a Chinese restaurant. It certainly wasn't kosher there. We did follow things. For instance, for Passover, we had a different set of dishes. We just followed that. As a teenager, once I got to be thirteen, I was bar mitzvahed. According to Jewish law, you're not supposed to eat on Yom Kippur. Are you Jewish? [Editor's Note: Kosher means selling or serving food prepared in accordance with Jewish dietary laws.]

MG: No.

AG: You're familiar with it though.

MG: Yes.

AG: Okay. You're not supposed to eat; you're supposed to fast for Yom Kippur. However, if it was harmful to you to fast, then you should not fast by law. This is something that is very nice.

Anyway, I grew up that way until I went to the military, and then the Army chaplain told us, "Okay, you don't have to worry about eating kosher." That was it. What's your next question?

MG: Well, tell us more about some of these holidays and memories that you have from celebrating.

AG: Well, we used to go through the Passover [Seder] with having bitter herbs and hiding the matzah for the kids to find. [laughter] I forget what they got as a prize for doing it. We had a fairly close family, which was real nice. Also, growing up, and this was interesting, before we went to New York from West New York in '29, they'd leave me in the house by myself. The apartment was right over the store basically, just a little bit away. The police came one time and wanted to know what was wrong, and here I was on the phone calling, "Geese, geese." The police thought it was, "Police," but what I wanted was cheese. [laughter] My mother made me a police suit. She was great at sewing. My wife is now, and I've made things even. I've even made sofa covers and draw drapes, where you have to look very close in order to see the piecing, the floral pattern. It's just another material, and I'm used to working with materials, any kind of material. Where was I?

MG: Your mother was making you a police suit.

AG: Oh, yes, yes, and my father got one of these kiddie cars, you know, where you pedal, and painted it to be like the police cars.

JM: How cute. [laughter]

AG: There I was pedaling around in that. Also, in the World's Fair of 1939 and '40, we got a two-wheel bicycle. Maybe I ought to back up a little bit. I had a big three-wheel bicycle. I wanted a two-wheeler, and [my father] couldn't afford it really because we were living hand [to] mouth. One of the problems he had was he had really bad ulcers. If he was working for somebody and got the ulcers, he had to quit. We had to go on relief at one time, and my parents had decided to split up, that my sister and I and my mother would live at her parents' house and my father would be by himself, trying to build up a business and continue that way. My sister and I objected to it, so we stayed together because we thought if we split up we probably never would have gotten back together again. That worked out nicely.

What else about my parents? My father died, I think it was about '55. He died in 1955. As I said, I was talking to him on the phone at the time. On both sides of my family, I mentioned no one lived past sixty-nine. I'm way up there, but of course medication is different now. My mother died of a second stroke while she was walking. She died right in the street. That was back around 1962, I think. What else about the family? [Editor's Note: The World's Fair of 1939-1940 was held at Flushing Meadows-Corona Park in Queens, New York. It was also the site of the 1964-1965 World's Fair.]

MG: I want to ask about the radio shop. What was it called?

AG: Oh, I think it was just Goldschmidt's Supply, but I'm not sure. It was in the Bronx. One of the things that he was able to do because gas was being rationed in the Second World War, he taught me to drive. He didn't use up all of his gas allotment, so he'd be able to take me out and drive. He had me going in and out of elevated [subway] pillars at somewhere around fifteen-twenty miles an hour and also driving Times Square traffic on a Saturday night. There, you have

to actually push people out of the way. If the light is red, it doesn't make any difference. If you touched them, you're at fault. A manual transmission car, you had to actually get so close that they'd give way. When he went Downtown in Manhattan in order to buy some parts, he would take me along, and I'd drive on a learner's permit. I got a lot of practice in driving. When I took my test, there was a very wide left turn, and the examiner balled me out for turning too wide or I forget just why. When we got back, my father said it was fine. He also told me that I would not need to know how to back into a parking [spot]. Well, it turned out to be the case. [laughter] Then, on a hill, a truck comes from the curb and cuts me off, uphill. I stopped the car fast and kept my foot on the clutch and brake. I got balled out for driving too close to the parked vehicles, which wasn't the case. He was trying to get me riled. Then, at the end, you're supposed to put the car in neutral and put the hand brake on. I kept my foot on the clutch and brake. I had my license in the mail the next day. [laughter]

I had visions of being a racing car driver when I was a teenager, and I still love to drive. I took a test recently because my doctor said I was ninety years old, and while I haven't had many accidents, which were only fender benders, for many years or tickets, he wanted me to take that test. I told him that I was concerned that if I didn't take the test, he might report me to Motor Vehicle Bureau and take my license away. I didn't want to take that chance. I used to be able to, if I saw something rolling off a table, I could catch it before it hit the floor. Now, I can't catch it, but I can touch it. I was outside the normal range, you know, looking for a color to change, and when you had the foot on the accelerator, just mark up and then hit the brake. You saw that. Well, my time was a little under half a second, and that was just a few months ago. I still have pretty good reaction time. [laughter] I'm concerned about having my license taken away just because of my age, because people treat me by age not by ability. That's something that really pisses me off quite frankly.

MG: We will bleep you.

AG: Right, bleep me.

MG: Can you talk about some of the neighborhoods you lived in in New York?

AG: Yeah, I lived in an Irish neighborhood, and I was always late every day. I was just a few houses away from the school. Finally, they had me come in early every day for, I don't know, a couple of weeks or so. There was one fellow there. He could pick your pocket like nothing; you never knew it. I challenged him one time to get I think it was something like a pen out of another student's shirt pocket. He did. The student never knew about it. I gave the pen back, of course, but this guy was fantastic. There was another guy whose name was Scienkiewitz, and I never knew how to spell it until a little bit after I knew the guy. It's S-C-I-E-N-K-I-E-W-I-T-Z, Scienkiewitz.

JM: Wow.

AG: Polish names are kind of hard to pronounce and spell. That was junior high I was going to, and I graduated from junior high at twelve-and-a-half years old. I skipped from kindergarten to first grade, and I don't know just why. I don't remember what my mother said, but it was either because I could tie my shoes or spell my name. [laughter] Then, when I got to two-year junior high, I made it in one year. I actually graduated at twelve-and-a-half from there and then four years for high school, so I graduated high school at sixteen and a half. I was able to start full-

time work [after] that. With the full-time work, eight hours a day, forty hours a week, I was going to Cooper Union at night, three hours a night, four nights a week. Then, after the year, I went into the military, and I figured, "Well, I better start over again." I did when I got out and finally ended up with a master's in electrical engineering. I'll tell you about this kind of thing later.

MG: Did you have lots of radios in the home?

AG: Not lots of radios, but we had a television set that was turned in for a bigger one. The tube was about this big.

MG: About a foot.

AG: About ten inches I think it was. By the way, the reason why we have the system of color television we have now is that there were a number of companies that were bidding for the license to do it, and RCA was the only one that you could still watch black-and-white pictures on a color set, where all of the others you needed a different set for color. You couldn't use the old black and white, so that's why RCA did what they did. They used to use the same chassis but with a bigger tube and they changed the model number a little bit but it was still the same basic electronics. When I started high school at twelve-and-a-half years old, they already had a television club there [with] a picture tube that was about this size, maybe about three or four inches diameter. It cost seventy five dollars in those days. You can imagine with all the inflation we've gone through what would it cost now, probably a few thousand dollars for something that size. I'm mentioning this, because this is how great the school was. As far as math was concerned, we went through to solid geometry and possibly even one course in calculus. I got the rest of the calculus in college. In fact, there's a trick. Are you familiar with trigonometry?

MG: It has been a while.

AG: There's a way that I can prove that a right triangle has two parallel sides and the sum of the angles is greater than 180 degrees, okay?

MG: Okay.

AG: It's a trick that people don't realize, but the first thing you do is to draw an angle bisected from the apex angle, and then from the base, bisect that with a perpendicular, and where it hits the other, you draw a lot of different lines and then you prove different triangles. You end up with many triangles in that overall. You prove that things are congruent by angle-side-angle or side-angle-side, a number of things like this. You probably remember. Well, not at all? It doesn't ring a bell. [laughter] Anyway, the trick is that you are assuming something there. You are assuming that the base bisector would hit the other, but it doesn't. You just draw it so it does in demonstrating it. If it did, that would be the case, but obviously it can't be the case because the sum of the angles of a triangle is 180 degrees period, and there are no parallel lines in a triangle. A lot of people don't realize in that construction that you're assuming something when you construct. If you try doing it by using tools like a protractor and so forth, then you get it right away. No matter what you do, it never touches. I think that might have been one of the things that that math instructor in high school came up with for the problems for the intellectual aristocracy. [laughter] He was really a great instructor. I learned a lot from him. We had a lot

courses. I had one year of free-hand drawing, and the problem was to decide which way the light was coming from and draw a picture of a car with the shadowing based on the light that was hitting it from a particular angle. It was amazing that I was able to do a good job on that. We had four years of mechanical drafting. As I say, I mentioned [we had] much math.

Getting back to the machining of the casting, in the machine shop, we'd learn to use the various tools and set them up, like a lathe, for cutting a taper, for instance, and things of this nature. One of the things we needed to do was to make a scriber, something that makes a line, [with] a [sharp] point and a ball on the end, just using hands to do it and judgement. It came out decently. I wish I knew where it was. In the electrical lab, we made a transformer and a soldering iron. The transformer had a lot of taps on, the little places where you can change the voltage, and my father used that for many years in his shop. One of my instructors got me a job at a place where he was consulting. This is when I was sixteen and a half and right out of high school. I worked there for quite a while and went in the military. When I came back, I went back to the same place. Before I left, I asked for a raise, to the vice president. This place, it was small, it had about a hundred engineers, and he told me that, not denying that I was worth more or anything like that, he used his son [as an example]. He said his son [was doing] the same kind of work I was doing. The guy said but he's glad his son didn't get any raise because if he did he'd be unhappy when he came back to the company. That was his reasoning for not giving me a raise. After I came back, I went back to the same place, and after about a year or so, I knew I was worth a lot more than I was getting. I asked for a raise from the chief engineer, and he said that if he gave me a raise he'd have to give some other people a raise who were doing, and I admit, higher-level work than I was doing. I ended up leaving. I went to a place that's called Radio Receptor Company in Brooklyn, New York.

I went to another company called Freed Electronic and Controls in Downtown Manhattan. One of the things there is that I worked for a guy by the name of (Smiley?). [laughter] He never smiled. I could tell just knowing him, we got to be pretty good friends, just knowing him, I could tell from the sound of his voice, just the least little bit, that he was really pissed. In fact, I think it was he that had designed some electronic stuff. Downtown Manhattan, you could go down to Radio Row and pick up parts real fast. [Editor's Note: Radio Row was the nickname given to a section of the Lower West Side of Manhattan in which there were many electronics stores.] I told him, and I had sort of a discussion with him because this was his design, I said, "It's not going to work." I actually redesigned it and got it to work. We were good friends after that. If somebody tells me that something can't be done, my mind just goes right into gear, and I can usually figure out a way to do it, whether it be mechanical or electrical.

In fact, I think I mentioned I've got five patents in my name. RCA owns all of them, because you don't get a job unless you sign [over] that it's going to belong to them. If you Google me, Google my name, Arthur Marvin Goldschmidt, then you can see some of the patents there. I've been trying to find the patents. The first page of my first patent was put in a plaque by RCA, and I had that on the wall for quite a while and then took it over to a friend, (Scott Jereky?), to show. His son was there, as well as (Sarah?). I don't know what I did with it. I was hoping to bring it here, but I couldn't. The first patent was very interesting. Am I skipping too much?

MG: That is all right. I will bring you back after this.

AG: I had that plaque for the first patent. The initial patent was really pretty. It was colored. If you lost that, you couldn't get a replacement. You could get copies of the patent. I ended up with five patents, and RCA used to give a[n] honorarium. The first one was something like eighty dollars, and the fifth one was 180. This is all before taxes, so they did you a real big favor. When you applied for a patent, RCA wanted to apply in many different countries. [I designed what] they call a slant track, where instead of recording across the track, it would be on a slant so you got a much larger track that way. You follow me?

MG: Not really.

AG: If this is the width of the tape, instead of recording across like this, it'd be like this.

MG: What does that do?

AG: It gives you a longer track. In fact, I think all of the patents had to do with controlling speed of very large tape recorder reels. One of the things I designed was something that would actually, and this was for the Navy, to control the level of missiles that were being fired, in other words, compensate for the roll [and] yaw of the ship. The one thing that is very difficult for a servomechanism is, first of all, there's electronics that feed an optical encoder and then that gets converted back to analog to feed in and operates on the error in order to correct everything. The spec was for five seconds of arc. There's sixty minutes in a degree, sixty seconds to a minute, and this is for accuracy of five seconds. Well, in order to make sure I got three seconds, I built it for three seconds of arc. When demonstrated to the Navy what I did was turn the power off and then manually turned the output shaft to be half over, so it didn't know which way to go when you turned the power on. In fact, the usual is to slew and overshoot quite a bit. Well, the ideal is to slew once and come back and stop. It did, and after that, I got their attention. I was aboard ship. Then, we actually checked for the accuracy, and most of my patents were having to do with feedback mechanisms like that.

MG: I think we will talk more about your work at RCA a little bit later.

AG: Okay, fine.

MG: I am curious if we can rewind a little bit to growing up and what impact the depression had on your family.

AG: Well, I was poor. My father, he could get a job, but because of his ulcers he couldn't hold it. We actually went on relief. I started to mention that. It's called, I don't know what it's called now, I forget, but it was called relief at the time. [Editor's Note: On May 12, 1933, Congress authorized a half-billion dollars in relief money to be channeled by the Federal Emergency Relief Administration (FERA) through state and local agencies and distributed to needy Americans. Headed by Harry Hopkins, FERA was one of many New Deal programs that sought to alleviate the impact of the depression. By the end of 1934, twenty million Americans were receiving public assistance. (William Leuchtenburg, *Franklin D. Roosevelt and the New Deal*, pg. 120, 124)]

MG: Were there things you had to do to help out during the depression?

AG: Well, I didn't have any work. I was after an uncle, this is the one that was painting the cartoons in the cellar, he had a mandolin. It was a Gibson mandolin, which is a pretty good one.

I wanted to get it, and he just wanted to keep it. Well, for my bar mitzvah present, he gave it to me. I used to sell papers on a Saturday night to get money in order to take lessons. I was able to play it fairly good, but through the years, I just knocked off. I still have the instrument, and I think it was built somewhere around 1908 or something like that. It's an old one but nice tone. Well, that was one of the things that I did to gain money, because my parents couldn't afford it certainly.

MG: Did your mother ever work outside the home?

AG: No. In those days, women always stayed home to take care of the family. Well, she actually did work in the store with my father to relieve him when he had to go to houses to either pick up radios or television sets and bring them back to the shop to work on. There was one time I was listening for a hum that was in a console radio. This is going way back. Now, alternating current, AC, and when people say AC current, I shutter because that's alternating current current, or they say alternating voltage current. You can't have voltage and current like that in a word. Anyway, I was listening to it, and I don't know what happened. I must have touched something, because it threw me across the room. The room was about this wide, and I really went. Now, DC [direct current] will actually throw you. AC will hold. If you touch something AC and get a good hold, it actually will keep you there. It doesn't take much current to go through your heart. You learn to work with one hand, and many times I've worked on electrical circuits just with one hand [so you do not complete the circuit]. One time I touched something, and my hand was shaking for about twenty minutes but I'm alive because I was holding on just one hand because it couldn't go through the heart like that. It has to be two hands.

When I started out, I was a[n] electronic tech before going into the military. When I got out, I got a job in this place Radio Receptor Company with my sister. She was a tester. They used to have call boxes with what's known as a knife switch. You push it up. Are you familiar with knife switches? No, okay. You push it up, you could talk; [you push it] down to listen. The middle is not operating. I was called Goldie. I get a call, "Goldie, Goldie," excited. She had made a mistake and blew out a multimeter that cost seventy-five dollars in those days. My job there at that time was to repair all of the electronic equipment. We couldn't get replacement meters, but we could get the springs. You have to use flux in order to be able to solder it, but if you use too much flux, in fact, if you could see it's way too much, as soon as you'd touch the iron to it, the whole thing would tin and you can throw it away. These hairsprings are only a few thousandths [of an inch] thick as far as the thickness of the metal is concerned. My hand was so steady that I could actually straighten a lot of these things, not only just solder them in. Anyway, I went down to the booth where I was working, locked the place up, replaced the springs, recalibrated, got it back to her. Nobody ever knew the difference. [laughter] I had a very interesting life I think, and we're only starting.

MG: You bring up your sister. What year was she born?

AG: '23.

MG: What is her name?

AG: (Pauline?).

MG: Were you two close growing up?

AG: Fairly close, yeah. She was born May 16th of '23. I still remember the date. Unfortunately, she got breast cancer. The normal thing was to remove the breast and all the muscles associated with that side of the body. She didn't want to do that. It actually spread to her liver, and she died from that because she was vain about the breast. Now, my wife had breast cancer also, so they removed the breast. It was on the left side, and the doctor said that she would probably never have use of that arm decently. What I did was to set up a pulley system between the living room and the kitchen, and every time she'd go by, she'd use it. She ended up with full use.

JM: Wow, that's amazing.

AG: As far as the kids were concerned, I wanted them to have full use of the house. What I did was put in another bannister, a little more than a foot below the regular one, so they could actually hold onto it going up and down the stairs. In the cellar, I didn't have it cluttered like it is now. They could play down there. What I did there was to drill a hole in the toggle switch to turn the light on and off, and I had a pulley at the ceiling and one at the floor. When they pulled one side of the cord, the light would go on. Pull the other side, it would go off. [laughter] Also, so they wouldn't fall off the sides, I used a strong cord and the mesh, so that if they started to fall, they could grab onto that. I always wanted them to have full use of the house. When they were kids, they were afraid of lightning, which is very common with kids. What I did was to determine how far away the lightning was. You can tell because lightning travels at 186,000 miles a second. It's pretty instantaneous, where sound travels at, I think it's just a little shy of 1,080 feet per second, so it's a lot slower. What we do is count the time from the time we saw the lightning until the thunder, and then [we] could determine how far away it was. I'm not afraid of lightning today. My grandmother used to be terribly afraid of lightning. I try to do things that would help kids.

JM: Yes.

MG: What other memories do you have about growing up? Joan, if you have questions, jump in.

JM: Oh, sure, okay.

AG: I had thoughts of being a racing car driver because I love to drive. [laughter] I think I'm pretty good at it. Also, growing up, I never thought I'd live past eighteen, and I don't know why. In the military, I almost didn't, something like six times.

MG: Yes.

AG: As I got older, I'd just move the age up a little bit. Right now, I'm ninety and a half, and I'm shooting for ninety-five. [laughter] I don't know whether I'm going to make it or not, but I told people, "If I don't make it, I'm going to come back to find out how old I was." [laughter] This is after I'm cremated, obviously.

JM: Arthur, you're a crackerjack.

AG: One of the things I carry here. [Editor's Note: Mr. Goldschmidt shows an identification card.]

MG: An ID card.

AG: That's right.

MG: You are donating your body to science.

AG: Right.

MG: That is wonderful.

AG: Yeah. The body has to be picked up inside of twenty-four hours, but I've got one of these notices. This is on both sides. I printed it, so it would be one piece. I keep that in the car.

MG: When and how did you make that decision?

AG: Well, I always figured I'm being cremated, because I didn't want to take up any room in the cemetery. [laughter] The Bible says, "Earth to earth." In the Jewish religion, there is no such thing as an open casket. The casket has to be made out of wood, no nails, pegs to hold it together, and soft pine it's made out of because the Bible says, "From dust to dust." They want the body to rot fast, get back to the earth. That's what the Bible says. I know it's not followed by a lot of people, but religious Jews are like that. You have to be buried within twenty-four hours, or if it's on the Sabbath, then it could go a little bit longer. [Editor's Note: The prayer, "We therefore commit his body to the ground; earth to earth, ashes to ashes, dust to dust" comes from the *Book of Common Prayer* of the Church of England and borrows from several different passages in the Bible.]

MG: Before we get into your military experience.

AG: Yes.

MG: I am just curious about other memories from growing up, family trips and things like that.

AG: Okay, we had a VW [Volkswagen] at one time, a Beetle.

MG: I mean from when you were a child.

AG: Oh, when I was a child.

JM: I don't think there was a VW then. [laughter]

AG: No, no, the only driving I was doing was that kiddie car. [laughter]

JM: I bet you did.

AG: What?

MG: Did you go to Coney Island or up to the Catskills?

AG: Oh, I went up to Coney Island quite a bit. They used to have a very good restaurant there. I can't remember the name. My grandfather, on my [mother's?] side, lived in Rockaway Beach, so we'd stay there a few days at a time to go swimming in Rockaway Beach.

JM: Compare now, Art, what you see on television as far as what Manhattan looks like compared to when you were a child. What was Manhattan like when you were five or ten years old compared to now?

AG: For one thing, you didn't have the kind of murders and so forth that you have now.

JM: Yes.

AG: People just didn't do things like that.

JM: You would have all the signs, yes, all the signs. Immigrants, did they hang their laundry out in the streets?

AG: Yes. Excuse me for a few minutes. I've got to run.

JM: Oh, sure. I'm intrigued by New York history.

[RECORDING PAUSED]

AG: We used to go over to Central Park because they had concerts there, and you never had to worry about being in the dark because the crime rate was very, very low.

JM: Wow.

AG: It was really great that way.

JM: Now, Art, as far as, say, I'm thinking like Times Square.

AG: Yeah.

JM: If you visualize Times Square now with the lights and they glitter and the glitz and all the theaters and all that stuff. In that era, number one, it wouldn't have been as populated, I'm sure.

AG: Yes.

JM: Did they have all the theaters? Broadway was still on a smaller scale, I'm sure, all the Broadway shows.

AG: Yeah, in fact, there used to be, it may still be there, I don't know, but there was a free opera house where you could actually go there free.

JM: Well, that'd be gone. [laughter]

AG: To watch student opera.

JM: Really?

AG: Yeah. I'm trying to think of what it was called, but there was a museum on the west side of Central Park that had free movies one day a week. You could do a lot of things free in New York City.

JM: Yes, wow. Do you remember much about Ellis Island as far as people coming in through Ellis Island? Was that your era?

AG: My grandmother, on my mother's side, came in Ellis Island. I think they were something like fifteen with her sister, her sister or brother, I'm not sure.

JM: Oh, wow.

AG: Many years ago, I actually did visit Ellis Island, and, boy, it's a great place.

JM: I've never done that. I'd like to.

AG: It takes hours. If you go there, park on the Jersey side and then take [mass transit].

JM: The Staten Island Ferry? No.

AG: No, there's a train that goes under the river, under the Hudson River.

JM: I'll find it.

AG: Yeah, they came through Ellis Island. That's where a lot of names got changed, because people didn't know how to spell their name and they got shortened or changed by the people working there. [Editor's Note: Ellis Island was active from 1892 to 1952. It was used as a federal immigration center. It is now a museum.]

JM: I've never been there, but the immigration going through there, that's just so chilling to me.

AG: Yes.

JM: It's so chilling to see that statue [Statue of Liberty].

AG: Well, if you want to go there, let's do it sometime because now that I have the scooter, then I can get around a lot better.

JM: There might be a road trip.

MG: Are there any other questions about growing up or anything that we missed about your childhood?

AG: Probably. [laughter] Let's see, childhood.

MG: How about some of your teachers in school?

AG: I don't remember them, except for the math teacher.

MG: I actually have more questions about this high school.

AG: Yes.

MG: The entrance exam you took, did it determine what kind of classes you would be best suited for and what you took?

AG: No, whether you get in or not. It was the only one in New York City, as I mentioned, that you had to pass an entrance exam in order to get into it.

JM: Why did your parents [want you to go to that school]? [Was it] because of the much better education that you would get there? Why did they choose that school?

AG: I chose it.

JM: Oh, you knew it was going to take you places.

AG: That's right. I knew from the time I was about ten or eleven just what I wanted to do as a vocation.

JM: Holy smoke, I still don't.

AG: Okay, so I was able to go right to it.

MG: Was it the influence of your father that you wanted to be an electrical engineer?

AG: Probably, yeah.

MG: It sounds like it was a very technical high school. Was it coed?

AG: I don't think so. I think it was boys. There was one time when one of the guys actually had a seizure, and they had to kick him out because we were working with machines that you can't afford to have a seizure when you're working on the lathe, for instance. It could be deadly. They just had to, it's a shame, but they had to expel him. I went to Pratt Institute, the college. Then, for master's, it was at Brooklyn College.

MG: Were there other kinds of extracurricular activities during high school?

AG: Well, I mentioned the newspaper. I guess it was mainly newspaper.

MG: I thought the newspaper was in college.

AG: You're right, you're right, it was college, yes. We're talking about high school.

MG: Like sports or yearbook.

AG: No, I was never much for sports. I used to like to watch baseball, still do, only I can't get it on my TV set now. When I was living up in the Bronx, it wasn't very far to go to Yankee Stadium. Ebbets Field was in Brooklyn. Then, the Giants [played at the Polo Grounds]. [Editor's Note: The Brooklyn Dodgers played at Ebbets Field in the Flatbush section of Brooklyn before moving to Los Angeles in 1958. On September 29, 1957, the New York Giants played their last game at the Polo Grounds in Manhattan and then moved to San Francisco a year later. In order to move his Dodgers to California, owner Walter O'Malley needed to persuade Giants owner Horace Stoneham to move his team in order to ease travel for teams playing on the West Coast. Before the Dodgers and Giants relocated to California, there were no baseball teams west of St. Louis.]

JM: Shea? No, no, no. [Editor's Note: New York's new baseball franchise the New York Mets played their first game on April 11, 1962 in St. Louis. The Mets played at the Polo Grounds while Shea Stadium in Queens was being constructed. The Mets played their first game at Shea Stadium on April 17, 1964. Shea was demolished in 2008 and replaced by Citi Field.]

AG: No, but it was in the Bronx also. As kids, we could get in very cheaply.

JM: How did you get around? As far as now, I know they have the subway and all, but how did you get around?

AG: Subway and bus.

JM: Subway and bus.

AG: Yeah, yeah. For five cents, you could travel all over the place on the subway.

JM: It was probably really safe, I'm sure.

AG: Oh, yeah.

JM: Probably very safe.

AG: Oh, very safe. It's night and day as far as any danger is concerned.

JM: Did they have a lot of cabs at that time when you were younger?

AG: Yes.

JM: Still a lot of cabs then?

AG: In fact, I learned fairly early, I forget just when but I was already driving at that time, where if you want to head, for instance, let's say northeast, instead of going north, you know, in a cab, instead of going north and then east, what you do is zigzag like that and you make all the lights. Otherwise, you stop for lights, [laughter] and with a cab, you pay for it. I used to, after I was wounded [serving in Europe during World War II], I was in a hospital for nine months. I had a cast for three months, a brace for three months and then just lying around for three months.

I used to get weekend passes, and the train would come to the hospital, this was in Utica, New York, take us to Grand Central Station after [retreat] and then get back on Monday morning in time for the bugle call [of reveille]. I got so used to riding those trains that it just sounded like [Editor's Note: Mr. Goldschmidt makes the sound of a chugging train.] [laughter] Also, the day I was discharged, the passenger cars were so crowded that there wasn't room to stand even. I figured, "Well, let me try the club car." Now, this is a guy that is not a drinker. In fact, I get sick if I have even one ounce. I went into the club car. I didn't know a thing about liquor, and you had to order something of course. I ordered a Southern Comfort, and it turns out that it was one of the most powerful [drinks]. [Editor's Note: On military posts, reveille is played in the morning during the raising of the colors, and retreat is played when the colors are taken down.]

JM: It has some kick to it.

AG: After the two-ounce bottle, I couldn't stay there too long, otherwise I'd be kicked out, so I had another one. When I got off to go home, I remember a policeman [stopped me, and I] tried to walk a straight line. That's the only time in my life that I've been drunk like that where I couldn't walk a straight line.

JM: I've never seen you drink ever.

AG: Huh?

JM: I've never seen you drink, yes.

AG: That's right.

JM: Yes.

AG: I don't. [I am] really a teetotaler. [The police officer] didn't say anything. They could see the, they call it a Ruptured Duck, which is an emblem that you put on. I don't know why they call it that, but ruptured possibly because you're out. I don't know. [Editor's Note: The Honorable Service Lapel Button was awarded to honorably discharged military serviceman. The servicemen then wore it on their uniforms when they were traveling home. It was nicknamed the Ruptured Duck.]

JM: Was it a Ruptured Duck?

AG: A Ruptured Duck, yes.

JM: That's if you're injured.

AG: No, you don't have to be injured. [You wear it] when you're discharged [honorably] for any reason. Now, I don't know if it's [for] if you're unfavorably discharged. You get that to put on your uniform.

JM: A Ruptured Duck.

AG: Yeah.

JM: I have to remember that.

AG: Yeah. Well, do you know about church key, because they even use that now?

JM: No.

AG: Do you know what a church key is? [Editor's Note: A church key is a small device with a pointy triangular end for opening metal cans and a bottle opener on the other end.]

MG: You have to remind me, but it sounds familiar.

AG: In fact, I use them at home from time to time. Do you have any paper, scrap? Let's see, what was I just talking about?

MG: Church key.

AG: Now, this is pointy. What you do is you put it on the side of the can and move it like that.

JM: Oh, okay, yeah.

AG: They still call it church key.

JM: Yeah.

AG: I don't know why.

JM: For C rations, you mean?

AG: Any can.

JM: Okay.

AG: It came with C rations.

JM: Yeah, I remember those, yeah, distinctly.

AG: I lost the cap.

MG: That is okay. I wanted to ask you.

AG: Yes, go ahead.

MG: What was it like to be young in your class, being sixteen-and-a-half years old when you graduated? You must have been younger than your peers.

AG: Yes, I don't remember anything particularly. As I say, I don't remember why I went through junior high just with half the time, one year instead of two.

JM: You're a smart cookie.

MG: What year was it when you graduated from high school?

AG: Let's see, I was sixteen and a half, and I was born in '25.

JM: '42?

AG: No, twenty-five and sixteen is?

JM: '41.

AG: Gee, I used to be able to do this in a snap.

JM: Twenty-five and sixteen is, but then your birthday's in August. Was it six months passed your birthday? You're born in August, I know that.

AG: Yeah.

MG: Was it '41 or '42?

AG: I think it was '41. I started in January, so that made up the half of year.

JM: Okay, that's a good question. Though to think you're two years younger, that's a big difference at that age, yeah. It does, maturity, you're right.

AG: I was also working full time and going to school at night, three hours at night, four nights a week, which is a pretty heavy load.

JM: Yeah.

MG: What was the job you were working right away after high school?

AG: After high school? Well, one of my instructors got me a job as a [hipot] tester, something called hipotting, checking transformers for insulation. [Editor's Note: The term hipot is an abbreviation for high potential or high voltage test, which ensures electrical insulation.] It was in a wide screen in case it blew up then, the screen would protect you. Also, because of my background, I was considered an engineering assistant to help others, yeah. That's where my hand hit some high voltage, and I think it was somewhere around a thousand volts. I was working with one hand, which is what you're supposed to do. With the electrical lab, the instructor used to go around testing for twenty versus 240 [amps] this way. He knew what he was doing, and he could tell the difference. Well, I've worked on live wires, but as long as you

work with one hand, there's no problem. You have to know what you're doing. Electricity is nothing to be afraid of. You just have to know what you're doing. A lot of people are afraid of it. If you don't know something, the tendency is to be scared.

MG: This was for Radio Receptor Company

AG: Yes, that's right. That's where I was told by the vice president what I said before, and I went back there right after the [war]. I started out as an engineer after school at fifty dollars a week, but times were different then. Even so, fifty was kind of a small amount. When I left there, I went to Freed Electronic and Controls. Then, from there, I applied to RCA, and it was in the summer. It's very difficult to get a job in the summer, because people are on vacation. When I was interviewed, I was there at eight o'clock in the morning. We went out for lunch, still continuing the interview during lunch, came back, and it lasted till five o'clock, a very, very long one, the longest interview I've ever had. They told me when I left that they would make me an offer, just didn't say how much. They asked me how much I wanted. I was getting, I think it was something like ninety-five [dollars a week] at Freed Electronic and Controls. I knew I was worth a lot more, so I told them 120 or 125 [dollars a week], something like that. They accepted it, because they knew I was worth it.

JM: Yes. [laughter]

MG: How did you decide to go to Cooper Union after you graduated high school?

AG: Yes. Why?

MG: Yes.

AG: It was at night.

MG: How come you picked that school?

AG: Well, it was close for one thing, also a very good school. One of the things [was] that it wasn't easy to get into, because there were a lot of tests that you had to pass. One of the things was spacial visualization, where you can have a picture, a so-called 3-D [three-dimensional] picture of blocks, and you couldn't see all of them but you're supposed to come up with the answer as to how many blocks were there. Again, high school helped me quite a bit, so I didn't have any problem with that. After I finished high school and after the military, I wanted to go to the Massachusetts Institute of Technology. [Editor's Note: The Massachusetts Institute of Technology (MIT) is located in Cambridge, Massachusetts.] I had an interview. A fellow came down from New York to interview me in New Jersey here, and he was telling me [about my weight]. I was very thin. When I got in the military, I weighed 125 pounds and all muscle, because of all the physical training we had, going on long hikes with sixty-pound packs and so forth. In fact, some of them were four-and-a-half miles in two hours with a sixty-pound pack. I couldn't gain any weight. He told me by the time I hit twenty-five I'll start gaining because that's what happened to him. He hit it right on the nose. When I got out, I was so strong that I could actually hold onto a chair, get my body straight out, or hold onto a pole and do the same thing. What I do as far as the chair is concerned, I'm not strong enough to even do one push-up now, but, anyway, I could hold a chair like this, get my arm into the belly and get my legs straight out.

JM: Wow.

AG: As I say, [I weighed] 125 pounds, all muscle. Now, I'm 185 and flabby as hell. [laughter] What else? Let's see.

MG: I was going to ask about what you were going to major in at Cooper Union.

AG: It had to be electrical engineering. There wasn't any question about it. That's from the time I was very young. When people say they have to find themselves, I don't see the big deal. [laughter]

MG: It was easy for you.

AG: Yeah.

MG: Was your college experience interrupted by the start of the war?

AG: Yes. I was only going to Cooper Union for one year, and then I was drafted. As far as drafting is concerned, I had letters of recommendation for a deferral from the chief Signal Corps inspector, who was working for the president of the company or the vice president of the company. Well, these were rejected by the board. The usual thing was when you turned eighteen, you were supposed to go to the draft board to register, and then after about three or four months, they'd send you a questionnaire. They handed me the questionnaire. Two months later, I was in. They were really hungry.

I took a test before going in called the ASTP, Army Specialized Training Program, and it was also Navy, Navy Specialized Training Program. Of all the guys that were going in, they picked very few for the Navy. I was one of those that they picked, but I was afraid of drowning. I turned it down. This test was to decide whether you go to a special basic training. It was thirteen weeks, and I think it was even rougher than the Army officer training. This "Golden Acorn" here, I was [in the] 87th Infantry Division, here this thing. They used to call it the "Baby Division" because we were so young. When the [Battle of the] Bulge started, I was barely nineteen. I was down in France before that. [Editor's Note: The "Golden Acorn" refers to the uniform patch and nickname of the Army's 87th Infantry Division. Beginning in 1942, the U.S. Army began the Army Specialized Training Program (ASTP), in which applicants who met stringent requirements would complete basic training and then be sent to a college or university to complete a bachelor's degree and earn a commission in eighteen months. The Navy offered the comparable V-12 Program, in which participants would earn a commission as an officer. In early 1944, with the invasion of Europe impending, the Army announced that over 100,000 ASTP students would become soldiers in combat units.]

MG: You were talking about the ASTP program.

AG: Oh, yes.

MG: Before that, I was curious about what you remember about when the attack on Pearl Harbor happened.

AG: This didn't come out until many years later, but at the time, there was a representative from Japan negotiating with President [Franklin D.] Roosevelt. When Pearl Harbor was bombed, I was a kid living in the Bronx. I'm trying to think of the name of the governor now. President

Roosevelt came on the radio. [Editor's Note: Herbert H. Lehman served as the governor of New York from 1933 to 1942.]

MG: You are talking about his famous, "This is the day that will live in infamy" speech. [Editor's Note: On December 8, 1941, President Franklin D. Roosevelt delivered a speech to Congress in which he described the Japanese attack on Pearl Harbor as "a day that will live in infamy." Congress declared war on Japan, and three days later, Germany and Italy declared war on the United States.]

AG: That's right. That's right. I heard that on the radio. It turned out, many years later, that Roosevelt actually knew that Pearl Harbor was going to be bombed, but he didn't do anything about it because people in the United States were against going to war. This changed things, because once we were bombed, we had good reason to go to war. A lot of people feel right now, including the active military, that if the Germans had broken through our lines in the Battle of the Bulge, [the turnout of World War II probably would have been different]. You probably don't know why they call it that. You do. [Editor's Note: On December 16, 1944, Germany launched a surprise offensive in the Ardennes Forest of Belgium with the goal of reaching the port city of Antwerp and splitting Allied forces in northwestern Europe. The battle became known as the Battle of the Bulge for the salient or bulge that the German advance created in the American lines. American forces quickly responded with reinforcements, including Mr. Goldschmidt's unit, the 347th Infantry Regiment of the 87th Infantry Division. On New Year's Day of 1945, the 347th Infantry Regiment entered combat deep in the salient near Bastogne. The regiment faced bitter German opposition along the Houffalize-St. Hubert Highway and in the area of the Haies de Tillet Woods. Fighting in the Ardennes lasted until January 25. The Germans suffered 100,000 casualties out of half a million men committed and lost nearly all their tanks and aircraft. American forces lost 19,000 killed, 47,500 wounded and 23,000 missing in action, making it the bloodiest battle of the war for the United States.]

MG: Yes.

AG: Okay, because they hit us in the middle of our line. The lines were about ten miles wide. [The Germans] were very short of fuel, and at Antwerp, Belgium, we had a fuel dump. In fact, we captured a lot of vehicles and Germans. They had what I call a vehicle train, where the first and last out of about ten vehicles had fuel, none of the others, so just running it like a train. We also captured a lot soldiers near the end because they ran out of small arms ammunition and couldn't fire. They couldn't fight anymore.

MG: I am kind of curious about what happened between the start of America's involvement in the war and then your ASTP program.

AG: Well, after twelve weeks [for me], the Army cancelled the program. Everyone [went] in the infantry. There had been people who gave up non-commissioned ratings in the Air Corps, back to private, and many of them were killed there. We went over with a 37 mm gun. I was in an anti-tank outfit. We got there. The thing was a pea shooter. They gave us a 57 mm [ammunition]. That wasn't worth anything either. The German 88 [mm] was a fantastic gun. It was originally an anti-aircraft gun. People don't realize that, but they found it was good for not only that but high trajectory and low trajectory, so they put it on the tanks. The tanks had so much armor that they could be bombed, but the only way you could get it with some kind of

cannon was in the belly because that's where they had the least armor coming over it all. There was a great gun. I was also being boresighted on by that. That's one of the times I could've been killed, but we'll get into this later. [Editor's Note: The German Tiger I and Tiger II tanks were armed with 88 mm cannons.]

JM: Art, did you have relatives in Germany at the time of the war? Did you still have family back there?

AG: Yes, yes. In fact, I had an aunt and uncle of my father that were coming over. They were scheduled to go to a concentration camp, and the visa came through the day before. He went to the camp, and she was able to come over. He was killed there.

JM: Oh, my God.

AG: Well, the Germans were trying to exterminate all of the Jews, but the point is a lot of people don't realize that he also killed something like two million Christians and all of the handicapped. Just the least little handicap and you were subject to the concentration camp.

JM: Homosexuals.

AG: Yes.

JM: There is more on that listing, too. I read one time that there's the handicapped and the mentally disturbed, emotional.

AG: Yes.

JM: Yes, there was just a list of what they screened. [Editor's Note: The ideology of Nazi Germany deemed certain groups to be racially inferior, including gypsies, blacks, Slavs, Jews and people with mental or physical handicaps. In 1933, Germany began imprisoning political opponents, Communists, gypsies and criminals in concentration camps. In 1939, Nazis initiated a secret euthanasia program that targeted the German mentally and physically handicapped. During World War II, Nazi Germany's Final Solution resulted in the killing of six million Jewish people, one-third of the world's Jewish population in 1939. (From "Concentration Camps" and "Euthanasia Programme," *The Oxford Companion to World War II*)]

AG: Yes.

JM: Horrible.

AG: Yeah. The Bulge ended on the 25th of January of '45. I was wounded on the 29th. It was just a little bit over across the German border. One of the things I was sorry about being wounded there is I wanted to go to those concentration camps and see firsthand what they were like.

JM: You think you would want to do that.

AG: This is an aside here, but there was a fellow who was in a concentration camp and all of his family were killed. The only reason he survived is that the adults there would give him a little bit of their bread, just enough to keep him alive because they were trying to save the young ones. Roosevelt was no friend to the Jews. He did a lot to keep the kids from coming over here.

JM: See, I never knew that. I'm not familiar with that at all. I don't know anything about that.

AG: Well, anyway, there was one fellow that he turned out to be a very smart guy working in systems at RCA, which is the highest level of engineering. They get the request from the military and actually break things up into pieces so the designer could work on stuff. Well, he was seventeen when he was liberated, and I think he weighed something like eighty pounds. He was in the Army hospitals for many months until they built him up to a point where he could survive. Oh, it was terrible.

JM: I just can't comprehend it. I just don't understand how that all happened.

AG: Well, you've seen pictures of mass graves.

JM: Oh, yeah, yeah.

AG: They're just murdered, and they fall into the grave. It was just a terrible situation. One of the things that we were told is that if we got caught with a German weapon, which they were all around because [on] the frontlines there's plenty of weapons and dead bodies of people and animals. When my wife died, even though I loved her very much, I didn't cry. Death doesn't bother me at all. You see so much of it. One day [during the Battle of the Bulge], I was chosen to be what they call chaplain's assistant, and that was to go around and pick up the dead bodies for burial. There was one guy that was in a foxhole, and the shell landed in with him. I needed a shovel to pick him up. I always break up at this point, I'm sorry. That was pretty bad. When you see movies, people ask me about *Band of Brothers*, and I tell them, "There's a few things that they can't show you, and some they won't show you." They certainly can't show you anything about smell or feeling, and when you go passed one of our tanks that had been knocked out by an 88, you can smell the burning flesh inside. They can't show you that in the movie or the feeling. It was pretty rough. A lot of times, we had just one meal a day. [We would] take a bite of, let's say, a K ration, for instance, put it inside our field jacket, and when we could, take another bite. It was that kind of thing. Well, later on, we'll get into other things. [Editor's Note: Based on the 1992 book by Stephen E. Ambrose, *Band of Brothers* (2001) is an HBO miniseries produced by Steven Spielberg and Tom Hanks. *Band of Brothers* traces the story of Easy Company of the 506th Regiment, 101st Airborne Division, during World War II. Mr. Goldschmidt refers to *Band of Brothers* when discussing the Battle of the Bulge because there are two episodes about the experiences of Easy Company during the battle.]

MG: Tell us a little bit more about your training.

AG: As I mentioned, it was training, training.

MG: You were at Fort Benning, Georgia.

AG: Fort Benning was where we went for basic training. In the winter, it does get cold. In the barracks, there were spaces between the slats of wood, so what we'd do is put our clothes under the mattress in order to keep them warm, so they wouldn't be frozen by the time we woke up. You'll notice from there that there was something like one-and-a-half million men that took part [in the Battle of the Bulge], and many froze to death. I think it was General [Omar] Bradley who figured the war wasn't going to last to the winter, so we didn't have proper clothing and an awful lot of us froze to death. On the way from France up to the Bulge area, we were riding in a two-and-a-half ton [truck], open in back, for something like eight [to] eight-and-a-half hours. When I

got out, I had to jump up and down for about twenty minutes before I had any feeling in my feet. Fortunately, I didn't get any frostbite or anything, but this finger turns yellow in the winter when it gets cold. It still does that. I figured I got out lucky. [Editor's Note: Omar Bradley was a U.S. Army general and field commander in Europe during World War II.]

MG: What were the kinds of things you were doing during training in terms of weapons and physical training?

AG: Well, physical training was every day we'd run for something like five miles.

JM: Is this with the sixty-pound backpack?

AG: No, not that.

JM: Not for training.

AG: No, no. We'd go on a lot of these forced marches, and also the normal was where we'd go for fifty minutes and then rest for ten. There's only one problem with that. They had the big guys up front. By the time the small ones caught up, it was time to move on again. I used to call it, "Take a break's over." [laughter] There really wasn't any break for the guys in the back. There was one guy that I heard of who his parents were killed in a concentration camp, and he was sent to take prisoners back behind our lines. They never arrived. He was killing them. He was killing them for what they did to his family. When they found that out, they gave him a different job. I actually went to college with one of the guys that was like that. As far as the Army intelligence test is concerned, they took 110 for OCS [Officer Candidate School]. I think the average of the guys that were in my infantry division was something like 130, much higher than that. I had 140. There was one guy, and there was a maximum of 160, 165 maybe, I'm not sure, he was just about five points under the maximum, but he couldn't figure out how to tighten the rope on a tent. It was a case of theory but not.

JM: Not practice.

AG: Knowledge but not practice. [laughter] One of the problems was he was always, his name was (Werner Goldschmidt?), and he was always marching in front of me. Do you know the way a lot of women's hips move? Well, his moved that way too, and after a long march, I started getting seasick.

JM: Oh, my God, Arthur, for God's sake. [laughter]

AG: I'm being truthful. I notice these things, and there's nothing wrong with that. That's the way women are built.

JM: Oh, you are funny.

AG: That's where you gain the weight first is in their butts. [laughter]

JM: I'm going to make sure you walk ahead of me always, always. [laughter]

AG: I'm a realist.

JM: Oh, you're funny.

AG: There's nothing wrong with it. That's the way you're built. Just like I found out recently that I forget just what the difference is as far as women's bodies are concerned, but certain things they can do that men can't do. It has to do with giving birth; that's the way they're born. I forget just what it is, but there's a difference. It's more than just sexual.

MG: Were you trained on the bazooka during your training?

AG: Yes.

MG: What was that like?

AG: Well, I was usually the one who fired, and a partner [did the] loading. In the Battle of the Bulge, I was being boresighted on by this 88 mm [on a Tiger II tank]. Do you know what boresighting is, both of you? Okay. It's where they look down the barrel, line up on an individual, and then put in a round and fire. An 88 mm is about a three-and-a-half inches [in] diameter. They couldn't miss, and there'd be nothing left of you. That's one of the times I could've been killed. Then, another fellow in my squad opened up with what was known as a grease gun, because it looked like the type of grease gun that used to grease automobile bearings with. Now, bearings don't need any greasing. It must have made so much noise on the side of the tank there that they gave up. That's why I wasn't fired on. Then, we went to get the bazooka, because we had it against the wall, and he grabbed it first. He was ready to fire it when I told him not to. If he did, the blast coming from the breech from the rear of it would hit the wall and come back and burn the hell out of us. Fortunately, he didn't fire. We moved to another one, got a lucky hit on the [tracks of a tank]. [Editor's Note: Grease gun refers to the M-3 submachine gun.]

JM: That rotates.

AG: What?

JM: I don't know what it is. I don't know.

AG: Instead of wheels, it has a sort of a chain going all the way around.

JM: Okay, okay.

AG: I can't think of the name.

JM: The track thing or whatever, that goes around, yeah.

AG: We got a lucky hit on that, so they couldn't move. They gave up, and the third ran away. After that, after the Germans pulled back, that was the last [of the] Battle of the Bulge. [Editor's Note: For this action, Mr. Goldschmidt was awarded the Silver Star.] By the way, the reason, I didn't know for quite a while until just a few years ago, when a fellow down in Florida was trying to find out just how many [are] left from our squad, it turns out we're the only two. He's about six months younger than I am. The town's name in both, it was Bonnerue, which both in Flemish and French means "Good Road." The road through the Ardennes Forest was too small for these big tanks. [The German Tiger II] tanks had two names. One was called King Tiger and the other Tiger Royal. You've probably heard those terms before, and that was the reason they came through the small town. Both my partner and I got a one-day pass to Luxembourg City. That city was so [modern]. It was like United States stuff as far as toilets and so forth are

concerned. Now, in France, they had two feet in place and a hole to aim at out in the open on the street. [laughter] It was unisex. I saw in one place, I think it might have been Paris, but I'm not sure, there's a guy and a lady. He goes over, takes a leak, zippers up, and off they go, so help me God. I don't know if you want to put that in the report. [laughter] In England, they have what are called water closets. They're glorified outhouses. [Editor's Note: The German Tiger II tank was commonly called the King Tiger or Royal Tiger. German tank battalions in the Battle of the Bulge included Tiger I and Tiger II tanks, both of which had 88 mm cannons. Movement of the heavily armored Tiger II tanks during the Battle of the Bulge was hampered by the thick forests of the Ardennes and fuel shortages.]

JM: Do you remember seeing the Eiffel Tower?

AG: Yeah, actually, I was up in the Eiffel Tower.

JM: Were you?

AG: But after the war. My wife and I, with two small kids, did that tour and went back there. We had been in Kwajalein for two years, and on the way back, we went to Europe. That was the reason for that. Those kids were young. My son was eight and my daughter was ten and just starting to blossom. It got to be a family joke because it seemed like every other week we'd have to get a bigger bra for her. [laughter] She was growing fast. You know what it's like. [Editor's Note: Kwajalein is an atoll in the Marshall Islands in the Central Pacific.]

JM: How did this stuff come into your head? Then, you kind of analyze all this and pop it out of there. I don't get it. [laughter]

AG: There was a case where they would say, "I saw it first." "No, I saw it first," that kind of thing, and it could drive you crazy.

JM: Now, (Nina?) had lunch with us, and if she were sitting here, she'd probably [raise] holy hell. [laughter] As far as the streets of Paris, what did they look like at that time? I guess the bigger question is how did the people react when they saw the American soldiers?

AG: Well, we didn't go through Paris at that time, because we went through small towns.

JM: How did they react, the native [people], like the Belgians?

AG: We didn't see very much, except that there didn't seem to be any young men or young women there. The men were taken to fight, and the young women probably produced babies. That was a very common thing in Germany.

JM: Oh, I heard about the Germans. There was a thing on TV about that, about the baby machine, all these baby buggies were all lined up. The women were all blonde, perfect, gorgeous, all of them were gorgeous, these baby buggies like an assembly line. It was creepy. It was really creepy, the video, the documentary that I saw.

AG: Yeah.

JM: Creepy.

AG: Oh, it was a bad time, yeah. We passed Luxembourg City, and we had to keep our weapons with us because that was Army regulation. We went to a movie, people staring at us

because of that. The first thing we did was to go to a public shower, because we had been living in the foxholes for about six weeks and no change of clothing.

JM: None.

AG: That's right, living in dirt. I don't know where we got the clean clothes from, but we did. Then, we went to a movie and also an ice cream parlor, because it was just like New York for instance, or Philadelphia, really modern. What do you want to take me back to?

MG: When was this pass to Luxembourg? When did you go?

AG: Oh, that was right after the Bulge ended.

MG: End of January 1945?

AG: No, the Bulge started on the [16th] of December of '44 and ended on the 25th of January. I was wounded on the 29th, and, again, I could've been killed there.

MG: When was the trip to Luxembourg?

AG: That must have been during those four days. I don't remember exactly.

MG: Between the end of the Bulge and getting injured. [Editor's Note: On January 15, the 87th Infantry Division took up defensive positions on the Luxembourg-German border in the Sauer River area. Troops were given three-day passes to Luxembourg City. ("Stalwart and Strong: The Story of the 87th Infantry Division," from *Stars and Stripes* magazine)]

AG: Yes, right, yes, before I was wounded.

MG: I was curious, just backing up again, about any advanced training you did.

AG: No. We were reasonably trained but not really good enough, because the first combat we were in, the first day, we were being shelled by artillery. Fortunately, it was a standard type of thing where the first shell went over and the second one in front, and you knew darn well that the next one was going to be in there. This was classic, but if it wasn't classic, again, I wouldn't be here. After the second round landed, the lieutenant says, "Let's get the f out of here." Oh, by the way, I told you that I'd get my mouth washed out with [soap] from my father. After I was in a week, a whole string of things, I don't want to say it here because some of them I even forgot, but it was still a long string [of curse words]. Every other word was the f-word. This is coming from a guy who you wouldn't dare say damn.

MG: When and where was this first experience with combat?

AG: Well, the first one was down in France. One of the things I remember was that we were told that we were surrounded on three sides by the Germans, and they were moving into the fourth side to completely surround us. The general that was in charge of the 87th Infantry only had one star and he called for two stars and he was always bucking for that second star. By the way, if you want, in PDF format, I have on my computer the PDF of the history of the 87th Infantry Division. [Editor's Note: Brigadier General and then Major General Frank Culin was the commander of the 87th Infantry Division from April 1944 through the end of the war.]

MG: A command chronology?

AG: What?

MG: A command chronology?

AG: Yes, yes.

MG: Okay, that would be really helpful.

AG: Okay, I can make a copy and get it to you.

MG: Okay.

AG: Let's see, what else?

MG: Well, I wanted to ask.

AG: Yes.

MG: Let me pause for a second.

[TAPE PAUSED]

AG: Which never happened to me certainly. You'd get an injection.

MG: Sort of a preventative measure.

AG: Yeah, that's right, for syphilis and whatever it was, gonorrhea mostly.

MG: Was that just in Fort Jackson or would that happen in other places?

AG: That's the only one that I know of.

JM: Do you know what the strange part is? You know Frank, our friend Frank?

AG: Yes.

JM: He's somebody else. He's in a nursing home right now, but he's still thinking about doing this when he starts feeling better. His job was an MP [military police]. He was one of the first MPs in Berlin at the end of the war. That was one of the first things the MPs did was pick up all the girls and they were tested. Whoever thought that would be part of the thing at the end of the war was picking up all these girls and getting them tested. Plus, much worse things than that too they saw. It's part of war, a part of war.

AG: Even after you tested, you could be infected immediately.

JM: Yeah, yeah.

AG: I don't know how good that test is.

JM: They did the best they could I guess with what they had to deal with. I never thought about that angle of it. Something else I never thought about, we talked with some of our friends too, the animals on the battlefield, the dead horses on the battlefield.

MG: Yes.

JM: I never thought about that part. There's so many things these guys bring up I never thought about that aspect.

AG: [There were] dead people lying along the road and bloated, just like the animals.

JM: That, I knew, but I never thought about all the implications and plus all the townspeople and all this stuff.

MG: Yes, there is a lot to it.

AG: Is a movie going to show you all of this stuff?

JM: I'm sorry?

AG: Is [a movie] going to show you all of this stuff? People wouldn't believe it, and besides that, they'd be appalled by it.

JM: Sometimes I think, Art, they need to see some of these things. I really do.

AG: I think so.

JM: I agree with you, Art. War is hell, as you well know, war is hell.

AG: When I first got out of the Army, I still like cowboy movies, if I saw a cowboy movie, no problem. If I saw a war movie, I'd come out shaking. I never knew why. It wasn't until many years later when I got involved with this PTS group. PTS?

MG: D.

JM: D. [Editor's Note: Mr. Goldschmidt is discussing post-traumatic stress disorder or PTSD.]

AG: Because they used to call it combat fatigue, and as you can see, I still have a pretty fair amount of it.

JM: Shell shock.

AG: Shell shock was [what it was called in] the First World War.

JM: Was that the First World War?

AG: Yeah. It was combat fatigue and then PTSD, all the same thing.

JM: All the same thing, yes.

MG: Well, let's look at our calendars.

JM: Okay.

AG: All right.

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

Reviewed by Kathryn Tracy Rizzi 5/16/17