RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY

NEW BRUNSWICK

AN INTERVIEW WITH JACOB STRUCK

FOR THE

RUTGERS ORAL HISTORY ARCHIVES

WORLD WAR II * KOREAN WAR * VIETNAM WAR * COLD WAR

INTERVIEW CONDUCTED BY

SHAUN ILLINGWORTH

HOUSTON, TEXAS
FEBRUARY 5, 2009

TRANSCRIPT BY

DOMINGO DUARTE

Shaun Illingworth: This begins an interview with Dr. Jacob Struck on February 5, 2009, in Houston, Texas, with Shaun Illingworth. This interview is made possible by a grant from the Classes of 1949 and 1942. Dr. Struck, thank you very much for having me here today.

Jacob Struck: Well, you're quite welcome.

SI: I appreciate it. To begin, could you tell me where and when you were born?

JS: I was born in Paterson, New Jersey, St. Joseph's Hospital, actually, on March 13, 1927.

SI: What was your father's name?

JS: Jacob.

SI: He was originally from the Netherlands.

JS: Yes.

SI: Do you know anything about his family history, or what his life was like back in the Netherlands?

JS: No, … I really can't tell you anything about his original home in the Netherlands; rarely did he even mention it. He came to this country when he was four, so, he probably didn't remember much about the "old country," or not enough to be able to talk about it. His father was a farmer. He was actually a landowner, who was a pacifist, and he refused to have his sons, my father and his three brothers, serve in the military, and so, … he sold his land, picked up and moved to the United States. … They came over in 1903.

SI: Was the family originally named Struck, or was that an Americanization of the name?

JS: Well, I think it's an Americanization. We spell it S-T-R-U-C-K, but that's an Americanization of S-T-R-U-Y-K. I think the problem was, no one knew how to spell the name, [laughter] so, they did the simple thing and changed the spelling. Of course, now, everybody asks me how you spell the name, "Is it C-K or Y-K?"

SI: Was it just the four brothers?

JS: And three sisters, yes.

SI: The whole family came over at once.

JS: So, it was seven children; they all came over at once.

SI: Did they originally settle in the Paterson area?

JS: Yes, they settled in; there was a section of Paterson, the name of which I forget, where a lot of Dutch settlers lived. There were a lot of Dutch people in that area. It was on the east side of Paterson.

SI: The silk industry and the Dutch go hand in hand in that area.

JS: Right, right, it was all textiles at that time and my father worked for many years in the textile industry.

SI: Was your grandfather involved in the textile industry?

JS: No, he worked for a company in Paterson, the name of which I've forgotten, that built railroad engines, locomotives, but all the rest of the family, brothers and sisters, my mother, worked in the textile industry. That's where she met my father.

SI: What was your mother's name?

JS: Saverina, Saverina Barbara.

SI: Where was she from?

JS: Well, she was born in Paterson. Her parents were German and French. Her mother was German and her father was French. They lived in Germany and France, respectively, right close to the border.

SI: In Alsace-Lorraine?

JS: Yes, well, I don't know exactly where. Again, I don't have those details, but they married and came to the United States and their children were born here in the United States.

SI: Do you know what your grandparents, or maybe your grandfather, on that side did for a living?

JS: Well, I don't know what he did in Europe, but, in this country, … he worked for a brewery. I think it was Budweiser, actually, and he delivered beer to taverns. You know, in those days, you couldn't buy bottled beer, [laughter] as I recall. … The neighbors were always going to the local tavern and coming back with a pail of beer, but beer, at that time, was delivered on these horse-drawn wagons in barrels to the local taverns. … Then, it was dispensed into pitchers, or pails or whatever container the purchaser wished to have the tavern put it in before he took it home.

SI: Your mother's parents were in Paterson, where she grew up, and your parents met in the textile industry.

JS: Right.

SI: Is there more of a story there? Do you know more about how they met?

JS: Well, no, not really. I don't know any of the details, except that they met. [laughter] I mean, they got to know each other by working in the textile industry and my mother was what they called a "winder." She took the yarn that came in skeins and wound it on spools, and then, the spools were mounted on looms and the threads were fed into the loom and the fabric was woven. My father was employed as what they called a "twister." I'm not exactly sure what twisters did, but he had to twist the ends of fibers together, so [that] they could be put through reeds and fed into the looms. Apparently, this was a skill that was difficult to learn and it took some time. … You could see, my father's fingers, from twisting, were just [reshaped]; the thumb was out of proportion in size to, you know, the rest of his fingers.

SI: Really?

JS: Yes. This is what he did practically eight hours a day.

SI: Rubbing the fingers and thumb.

JS: Yes, just twisting these fibers together all day, also, … my uncles were weavers and loom fixers. They all worked in the Paterson textile industry.

SI: Did they work for a specific company?

JS: Well, some of them worked for Haband. I don't know if you're familiar with that name, [if] that was a familiar name, no, but they worked in a lot of different little textile manufacturing facilities. Even I wound up, when I was in eighth grade, working in the Champin Ribbon Mills.

SI: Oh, did you? I will definitely ask you about that later.

JS: I swept the floors and cleaned the restrooms on Saturday morning. [laughter]

SI: Did your mother continue working after she and your father started the family?

JS: No, … as soon as the family came, I don't remember my mother ever working steadily at a full-time job. During the Depression, she did work briefly part-time. So, apparently, she left work soon after I was born, or, well, I imagine, right after I was born. I never heard any comments about her working after her children were born, and very few, actually, about her work. [laughter] That's one of the things my parents never seemed to say much about, was, you know, how they worked, but I know that, … for instance, my father began working in textile mills … when he was just very young, like nine, ten years old. He left sixth grade. In those days, children, right, left school, went to work, helped support the family. My mother never graduated from elementary school. She got to the eighth grade, but she had to go to work in her last semester. So, she never actually completed eighth grade. … When I think back about it, I realize how lucky we are these days, or how lucky I was when I was a kid, because they worked ten hours a day, six days a week, 312 days a year.. They only had one holiday in the year, that was Christmas Day, and, of course, they didn't get paid, and, naturally, they didn't get any vacation time or sick time or medical insurance or anything else. All this endured by little kids.

SI: Yes, and the conditions were not the greatest either.

JS: Yes, oh, yes. Well, if you worked in one of those textile operations where they were making fabric, with those looms going and the dust, oh, man. … I don't know how they did it, but they did it for years and years.

SI: Did you notice respiratory problems in your family?

JS: No, there is no record, that I know of, of any respiratory problems in any of the people, although they worked under conditions where I thought they surely would have had problems.

SI: Were any of them involved in unions, or trying to unionize the workers?

JS: Well, there were attempts to unionize the textile workers, and … I think my father was basically anti-union. He wasn't … inclined to favor unions. … I guess, today, you would say he was probably somewhat Republican. Although he was independent and he voted back and forth, he tended to lean to be conservative. … He favored Republicans. He wasn't too enthusiastic about FDR [Franklin Delano Roosevelt]. He didn't think FDR did enough to relieve the conditions during the Depression, which I remember as really severe.

SI: Did you know your grandparents who had come over from Europe growing up?

JS: No. … My maternal grandfather and my paternal grandmother died before I was two years old. They died in the two-year period between '27 and '29, so, … I have no recollection of them whatsoever, never had an opportunity to get to know them. … Then, my maternal grandmother, of course, was left a widow and she was very independent. She refused to live with her children, [laughter] any of her children, and she went to work, early in the '30s, in a hospital on Welfare Island [now Roosevelt Island] in the East River. … She worked there for many, many years, … until sometime just before the war, and she picked up and moved to Florida. … Eventually, after the war, she moved to California, lived in Los Angeles for a couple of years, and, in 1950, she returned to New Jersey.

SI: She lived for a long time then.

JS: She lived to be eighty, yes. I recall her coming home for Thanksgiving, in 1950, and she died the week before Christmas, died in her sleep. So, I really don't remember much about her, … yes, never had a relationship with her.

SI: She never talked about what it was like to immigrate to the US.

JS: Yes, don't know anything about that history. Strangely enough, none of my father's family ever discussed it in my presence. They never mentioned the "old country." My father never mentioned the "old country." I don't recall him, one single time, ever referring back to his days on the farm in the Netherlands, or any of the people over there or even having anything to say about his life. Of course, he was only four years old when he came over, so, I suppose there

wasn't much to say. Maybe he didn't remember much about it, [laughter] but he never mentioned coming over on the boat or anything.

SI: Either in your household growing up, or in the family, were any traditions from the "old country" kept up?

JS: Oh, no, no, no one ever [did]; … my grandma could speak German, of course, and my grandfather could speak it. Of course, I wouldn't remember that, because he died before I got to be two years old, but we never heard any French or German, never heard them speak it, and none of my father's family ever spoke Dutch, in my presence, anyway. None of my cousins, who grew up in those families, when we visited them, we never heard anyone speak a foreign language. They all spoke English.

SI: Were holidays mostly American style holidays?

JS: All completely Americanized, you know. They just cut all their ties with the Europeans. Yes, for some reason; I don't know … what the reason was for that. [laughter] I think my grandfather, though, being a pacifist, was very dissatisfied with some of the policies being promulgated in the Netherlands at the time he was trying to raise a family. He was a devout member of the Dutch Reformed Church. Now, I remember, we would visit Grandpa, who lived with one of his daughters and her husband, and we would go there. In those days, the big meal was Sunday at noon, right, approximately, what we called Sunday dinner. So, we would go visit Grandpa and have Sunday dinner with my aunt and uncle and Grandpa, but Grandpa was in church. [laughter] We'd arrive there in late morning, eleven, eleven-thirty, twelve o'clock; Grandpa was in church. Grandpa would come home, he would sit down, he would eat his dinner and he would go back to church.

SI: Wow.

JS: Yes, he was in church all afternoon. Then, he'd come home. If we stayed late enough in the afternoon, he would be home for an hour, but, in the evening, he went back to church.

SI: Did he have a position, perhaps as a deacon?

JS: I don't know what he was, whether he was just a member of the congregation or whether he occupied some position. I really don't know. He never talked about what his religious activities were, but I just remember never seeing much of Grandpa, because he was always in church. [laughter]

SI: When you were growing up, what was your neighborhood like?

JS: … I grew up, the first nine years of my life, … we lived on Columbia Street in Clifton, New Jersey. Actually, I was born in St. Joseph's Hospital in Paterson, but the only reason I was born in a hospital in a different city was because there was no hospital in Clifton. [laughter] So, that was the nearest hospital and I spent my first nine years there, on Columbia Street, where we lived in a rented apartment in a two-story home that had been built, oh, in the '20s, I guess. …

Columbia was a small street, connecting the main street, Main Street, with Getty Avenue, which were the two main thoroughfares, and it was just one block long and there were about half a dozen houses in that block. One was a four-plex, one was a single-family home, and the remainder were two-story homes, which were built by people who invested in real estate and rented out apartments. The main thing they rented out was the apartments that they had, and earned income from that, except for the one house, the one single-family house, where the owner occupied it, so that all of us were renters, so-to-speak, living on that street. … I remember an Irish family, of course, we were of Dutch descent, and the people upstairs were Swedish and we had two Armenian families and one Italian family and an English family. … We had our own, right, diversity, [laughter] highly diverse ethnic representation on Columbia Street. We lived there until 1936. Of course, that was right through the worst part of the Depression. My father had a hard time getting jobs. So, in 1936, things got so bad with our family that we had to move to cheaper quarters. … We moved from Columbia Street to West Second Street, where, for a short period of time, we occupied the same house as my aunt and uncle, my mother's sister and her husband. … Then, we eventually moved into an apartment right across the street and the family lived there until my parents passed away.

SI: When the Depression started to set in, what do you remember about how things changed? What stands out about that period in the early 1930s?

JS: Well, I think, actually, when I was growing up, I didn't … fully realize, as a kid, you know, we were in the midst of … one of the worst depressions in the history of the country. [laughter] I mean, I never realized the extent of it. I knew we were in a depression. I knew my father couldn't get work. I knew, from hearing the adults talk, you know, around the table in the evening or so, or when relatives got together, about people having to go on relief. We didn't call it "welfare" in those days, we called it "relief," and relief was administered by the local authorities. You got your, whatever it was you got, I'm not even sure what you got, but you got it from the City of Clifton, and people were very reluctant to let others know that they were on relief. … I remember clearly adults speculating about whether the Martins, [Dr. Struck speaks in a hushed voice], "I think they're on relief," but nobody was talking about it. Now, I'm not sure, I can't answer whether we actually did get on relief, but I know that, in 1936, my father went to work for the WPA [Works Progress Administration]. … I don't know how you would classify that, but they were building the state highway. Actually, it's Route 46. Are you familiar with Route 46?

SI: Yes.

JS: Yes, he worked as a laborer building Route 46, … for a couple of years, I'd say from 1936 to 1939, sometime during that period. Finally, he obtained a job, I think it was in 1940, early 1940, at Okonite Calender and Cable Company in Passaic, New Jersey, and he worked there all during the war.

SI: What were they producing, war materiel?

JS: Yes, they produced cables, communication cables that, you know, … run under the ocean. … The company did a lot of work for the Navy, cables for ships, aircraft carriers, submarines,

the sort of specialty cables that were something other than those produced for ordinary commerce. They were sort of specialty military items, but I know, during the war, he worked, oh, for months on end, seven days a week, sometimes ten, twelve hours a day. [laughter] We didn't see much of Dad during that period. He was always working.

SI: Did he ever get back into the textile industry?

JS: No, no, once he left and got on with the Okonite Company, he worked there until he finally retired. He had to take early retirement because of cardiovascular disease. He had a couple of heart attacks. …

SI: Either on Columbia or Second Avenue …

JS: West Second Street.

SI: West Second Street, okay, do you remember anything that even you, as a child, would have to do to help the household get along? For example, would you have to collect coal or do chores?

JS: No. … Actually, we never had to go out and collect coal, but, actually, I did collect coal with some of my playmates. … Columbia Street ran between Main and Getty, as I said, but, then, north of Getty, there was, like, empty lots, a wooded area. The Erie Railroad ran through there. … Of course, all the locomotives were, right, coal-fired, steam locomotives and trains used to come through there with the tenders … loaded with coal and coal would, right, spew all over the place. … Koppers Koke was located right on the railroad, a few blocks from Columbia Street, and trucks were constantly coming in and out of there, loaded with coal that they were going to deliver to homes. … The coal would, right, fall out, fall on the road, and so, we used to help people gather it. This was sort of an amusement for us; we'd walk up and down Getty Avenue, and up and down the railroad tracks, picking up coal. Actually, we actually didn't use that ourselves, but some of our neighbors did, and I remember that very well, yes. … We did all kinds of things during the Depression. … One of the favorite things we used to do, we used to get orange crates that they used to ship oranges in, from the local grocery store or local butcher shop. You know, we had mom-and-pop shops, no supermarkets in those days, and we'd go to the local grocer and pick up orange crates, take them home, pull out all the nails, straighten the nails out, [laughter] and we'd use the nails for, you know, nailing. [laughter] We'd build all kinds of things, [as] kids. We'd build all kinds of things out of orange crates, something like, we'd get old axles from baby carriages and mount them on orange crates and push ourselves around. …

SI: Like a scooter?

JS: Scooters, [laughter] truck, cars. Yes, we had a good time.

SI: When you were growing up, before you went to high school, would you say you spent most of your time with your friends, playing with them, or were you more family oriented in your activities?

JS: No, I spent most of the time playing with friends. Actually, in those days, my older brother was two years younger than I was and my youngest brother was six years younger than I was. So, the six-[year gap], that was a big gap, but even the two-year gap was big. In those days, kids running with a crowd did not permit their younger brother to tag along, right. [laughter] For you to associate with your younger brother was unthinkable; you'd be socially ostracized from the gang. We didn't want little brothers tagging along with us. You know, it was really sort of ridiculous, but, anyway, I always seemed to wind up being the youngest of the group. I usually ran with kids who were, maybe, one, two, three years older than I was. As a consequence, I was constantly being picked on, because I was the smallest, and I had to be quite combative. I got, you know, a couple of black eyes [laughter] and I'd run home to Mom, [laughter] and Mom, … she'd have a fit because I was fighting. I wasn't supposed to fight; [speaking to his mother], "But, I wasn't going to let these guys pick on me." … Actually, it worked out pretty well, because they did it once, and, when I slammed into them, boy, they didn't bother me again, … because we had a couple of bullies. I mean, they were always bullying the smaller kids around, and, at one point in time, I just got so sick and tired of it that I lit into this one kid. [laughter] I think I surprised the daylights out of him, but he never bothered me again, yes, and I had a group cheering me on, all young, little kids. [laughter]

SI: You described how diverse the neighborhood was. Was your group of friends also from all different backgrounds?

JS: Yes. Well, when we moved, when I was nine, to West Second Street, I went to another school. While we lived on Columbia Street, I went to School Number One, Public School Number One, which was a recently built school. It was a brand-new school. I entered kindergarten there, and I think I got to fifth grade before we moved. … Then, I entered Public School Number Four, which was just one block from where we lived on West Second Street, and, you know, got to know kids, a new group of kids, and so, I ran with them. Now, that was a very diverse, much more densely populated area. We lived in an area, … I [would] say about six or nine city blocks constituted this little community, where all the kids knew each other, played together, played ball together, which [was] one of the things I noticed about my younger days; we kids did everything ourselves. We organized, leaders appeared, and we'd choose up sides and played softball, or football, which I was prohibited from playing. My mother would not allow me to play football; too many kids got injured. She told me, right off the bat, when I went to high school, I was not going to play football, [laughter] but, as you'll see, as the story develops, there's no need for her to worry about that. … She had strict rules, too. … I mean, we led a much more disciplined life as children than my kids ever did. However, we had a lot more freedom than my kids did, because … children used to all group together in organized activities, all kinds of games. … I remember, we used to have handball tournaments. I remember, I was pretty good at handball and we used to run handball tournaments after school. We'd all rush home, because you had to go home and change from your school clothes, right. You changed from your school clothes. We had three sets of clothes; we had play clothes, school clothes and Sunday clothes, and you didn't dare mix them up. … Every single day that I went to school, I had to pass inspection, to make sure I wasn't wearing my Sunday clothes or my play clothes, that I was properly dressed, with a shirt and a tie, and that everything was clean, and I even got inspection behind my ears, and that my hair was combed. I couldn't get out of the house without a shirt and tie, right, and being properly dressed, and the first thing I did when I got home was

change out of my school clothes into my play clothes. … That was the ritual every day, for many, many years. My mother was very strict about that.

SI: The orange crate story was interesting, where you were making your own toys. Do you remember other examples of that, where you would make things on your own? Would you make bats or balls to play with?

JS: Well, we had bats. … What we did for bats and balls, for instance, in the neighborhood I lived in, I would say, was the lower middle-class, I would say mostly blue-collar workers, and nobody owned [all of his own equipment]. You know, kids today, they own three or four baseball gloves or baseball bats and everything, helmets, and we never had any of that sort of equipment. … We'd get together and "A" would supply the bat, I had a glove, which I would use when I was out in the field, and then, I would give it to some other kid on the opposing team and he would use it to play his position on the team. … Somebody would supply a ball and other people would buy a bat, and the same way with football or any other sport we would play. Equipment to complete the game was supplied by the participants, who were all playmates, actually, and we even organized … the football team and we got sponsors for the football team.

SI: Really?

JS: By, yes, visiting local merchants. People would be horrified to hear this today, because we would play without protective equipment, and I risked my neck, because I would play football and hoped my mother wouldn't find out. I was just afraid I would tear my clothes or something like that, but I did, a couple of times, and, you know, she immediately knew that I had been playing football. I would catch heck. So, I'd be grounded for, you know, a week or so, but, then, I'd go back and do the same thing, but, no, we'd organize football teams. … We'd actually play teams from different sections of the city, like, we lived on the west side; now, on the east side, which was on the east side of the Erie Railroad tracks, was the east side kids, right, and the west side kids would play the east side kids. … We'd wear sweatshirts, jerseys with the T-shirts, with our sponsor's name on them, like the local grocer or the local bakery. So, they would buy us the shirts and we would wear the shirts. … They might buy us a football to play with, or something like that, but we didn't have anything like shoulder pads, or any kind of pads, or football pants or helmets. … You know, you had to be a rugged individual. [laughter]

SI: Would people come to see you? Would there be more formal games, with spectators?

JS: Well, … kids, yes, but not adults. Every once in awhile, kids would show up to watch a game, you know, but my kids missed all that, and I think they missed something that was of value, learning. … You had to learn to get along with a group, right. We would come out and gather, and then, the leaders would come, right. … "He's going to be the team captain," like, they'd promote themselves, and then, the two team captains would choose to see who they were going to pick. So, team captain A would pick somebody, and then, team captain B would pick somebody, right. … You were sitting there, and there were always kids they would pick first. They were the better athletes, the bigger kids, but the little guys, like me, we were waiting, hoping we were going to be picked, [laughter] because, if we weren't, we weren't going to be able to play, but, then, … you know, if we had a surplus of players and not everybody could get

picked, we would switch off. Like, we'd play for awhile, and then, we'd let another kid come in and play our position. So, you had to learn to get along with people and I think it was a good educational experience, actually.

SI: Were there ever any conflicts along ethnic lines or anything like that?

JS: Nope, nope. … I never heard any of these demeaning words, like "spics" or "guineas" or any[thing]; no language like that whatsoever, never. I never heard any child ever refer to any other child's nationality or ethnicity or religion, you know, because we had Catholics and Protestants and things like that. Nope, didn't occur, among the kids; [laughter] now, I don't know about the adults.

SI: Were there any other, more organized activities, like Boy Scouts or anything like that?

JS: … We had Boy Scouts around somewhere, but I never had any contact with a Boy Scout troop. … I knew there were some kids from school who belonged to the Boy Scouts, but I never had any contact with Boy Scouts. I don't recall; I think I knew a couple of Boy Scouts, but I really didn't have any close association with them. … No, I never joined Boys Clubs or anything. I don't think we had any Boys Clubs in those days.

SI: You did not have a YMCA in town.

JS: Yes. No, we didn't. … I knew there was a YMCA, but … I don't think there was a YMCA in Clifton. I knew there was a YMCA in downtown Paterson, because I knew one of my schoolmates … attended functions at the YMCA in Paterson, but … I actually never went there.

SI: Would you have opportunities to go either into New York or Hinchliffe Stadium to see sporting events?

JS: Well, … yes, I saw sporting [events]. I saw motorcycle racing. My cousin's father was sort of a motorcycle racing enthusiast and I used to accompany them to the races at Hinchliffe Stadium. … One of our favorite activities, when I was in high school, was going to New York to see a movie and a stage show. We would go in to the Roxy or the Paramount or Radio City Music Hall, these were better known places, when I was a young kid. When I was, like, twelve, thirteen, fourteen years old, we'd get on a bus on the corner, we lived one block off Main Street, the main drag, get on an intercity bus, twenty-three cents took you into the Midtown … bus station. They didn't have the Port Authority Building then. We went to the Midtown bus station, which was a bus station right near Times Square. … We'd go to one of these theaters and … we'd see a movie feature, and then, we'd see a cartoon, short subject, and we'd see a newsreel. … Then, we'd see a stage show, like a band, like Tex Beneke or Tommy Dorsey, and some of the others, I think whose names I've forgotten, or we'd see a stage show. I saw Al Jolson, Bob Hope, Frank Sinatra, of course, … he appeared as the vocalist with the band, and then, all the female singers. … Yes, oh, this was a big thing we used to do on Friday night, Friday or Saturday night.

SI: It was just you and your friends.

JS: Yes, just a couple of friends, two or three of us, … cost us forty-six cents. Then, right after the show, … we'd have to get there for the early show, which means we'd let out about nine o'clock or so, because we'd get in there about a little after six and we'd get out about, maybe, nine, a little bit after nine, and then, we'd rush right to Nedick's. [laughter] We didn't have Burger Kings or McDonald's in those days; we had Nedick's, right. We went right for a Nedick's stand and got ourselves a Nedick's orange drink … and a hot dog, or something of that sort, and then, we'd get on the bus. We had to get out of New York by midnight. "The owl," the last bus, left at midnight to get us home to Clifton, but we left long before midnight, actually, on that schedule. Yes, that was a favorite activity. In those days, you could walk around Times Square and Broadway, plenty of kids, teenagers, young kids walking around there, no problems. … I don't recall reading of any muggings. It was not a real problem with kids over there. Now, when my kids were growing up, I wouldn't permit them to go to New York by themselves. [laughter] That would be ridiculous, but we used to do it all the time and I don't remember a single incident where any of these kids was ever molested, approached or got into trouble of any kind, whatsoever. … I saw all these famous icons, right, of the day, celebrities, Frank Sinatra; let's see, Frank Sinatra, Al Jolson, Eddie Cantor.

SI: Did you like the Big Bands as well?

JS: Yes, oh, yes, we'd go see Big Bands, Tommy Dorsey, I'm trying to think of the names of them, Tex Beneke, we saw. … I just can't remember the names of the bands, but, yes, we covered them all. That was the favorite activity, because we'd plan ahead, you know, because they'd announce weeks in advance, "During the month of October, we're going to have Frank Sinatra, and [the] Tommy Dorsey Band with Frank Sinatra." So, we'd plan on, "Well, this date, we're going to go."

SI: To go back to when you were a little younger, you mentioned that you had a job in the Champin Ribbon Mills.

JS: Yes. This was when I was; … I used to have employment practically all the time. I ran errands, I mowed lawns, shoveled snow in the winter, was always making money, [laughter] was always busy. That's another thing; I was always busy as a kid. I was up, busy all day, until I went to bed, had to be in bed at nine o'clock, ten o'clock. … You were up late at ten o'clock, something my mother discouraged. [laughter] Got up in the morning and it was go, go, go, going to school, home, change your clothes, out to play, in to eat supper, right, and then, do your homework, and then, go to bed, but it was activity from beginning to end, and so, I used to do [a lot]. I got a lot of jobs when I got into, like, eighth grade. I got a lot of jobs mowing lawns, doing errands, washing windows. In those days, most houses were equipped with storm windows and screens, so, people, in the fall, you'd put up your storm windows, took your screens down, put up your storm windows. Then, you had to wash all the windows, right, and store these things away, and so, there was a lot of that kind of activity. … For kids, kids used to make a few cents doing those kinds of chores for neighbors, and not for your own parents, though, because we didn't get paid. [laughter] We had all kinds of chores to do, running to the store. I remember well, we didn't have an electric refrigerator until 1940, when we got our first electric refrigerator. Up until then, we had an icebox, which nobody knows now, "What's an icebox?" Well, you had an insulated cabinet called an icebox, where you kept a block of ice in one section of it, in one

compartment. … As the ice melted, the water drained down through a tube to a pan under the icebox, which you had to empty periodically, otherwise, you got water all over the floor, and then, an iceman would deliver ice. Like, on Columbia Street, or even West Second Street, an ice man would come down the street, ringing his bell in the morning, right, and the housewives would have put a sign in the window, it was a big sign, and that said, "Ice." That means you wanted ice. So, the iceman, … being familiar with the neighborhood, he used to know which … sized piece of ice would go in which home, because the iceboxes were of different sizes. … For instance, you could get a ten-cent piece of ice or a fifteen-cent piece of ice, depending upon the size of your icebox, and so, the iceman, who did this regularly, knew which house took which sized piece of ice. So, he'd see, "Ice," he'd chop it, put it in his carrier, ring your bell, come in, load your … block of ice into your icebox, and it cost you, maybe, fifteen cents or ten cents for a piece of ice. … Then, of course, we had produce delivered, and I forget what we'd call these people, … a horse-drawn wagon loaded with produce. … They would come down the street and the man's ringing his bell, so, people knew that the farmers were out there peddling; peddlers. Peddlers used to come by with their produce, and then, all the housewives would come out of their own homes and inspect the produce and select what they wanted.

SI: Yes, that is really something that has gone by the wayside.

JS: Oh, yes. …

SI: There are no more home deliveries, no knife sharpeners, no milkmen.

JS: Yes, milk, every day, [the] milkman came, every day, right; all that's disappeared.

SI: Was your first job the job at the textile factory?

JS: Well, … I got that in the eighth grade. When I was in the eighth grade, actually, in the summer of my eighth grade [year], I worked on a farm, Broad Acres Farm. … Are you familiar with North Jersey, Clifton, at all?

SI: A little bit.

JS: Yes, Broad Acres Farm, … I don't know what the acreage was, but it was sizable. I worked on that farm during the summer. We'd go in and the farmer had a permanent staff, you know, adults, who drove the trucks and things that he used, and ran the machinery, but they didn't have herbicides and they didn't have all these cultivators and fancy things. … They used to hire kids, during the summer, to do weeding and cultivating, and then, we used to harvest all the vegetables, because right in the City of Clifton were these truck farms, and one of the biggest ones was Broad Acres Farms. … I would get up, six o'clock in the morning, get up, start at six o'clock, report, you know, to the farmer for assignment, and we'd [hear], "Do this, do that, do another thing. Harvest tomatoes," or whatever we're going to do, "Pick beans," or whatever. … We'd go out in the field and we'd work until about noon and we'd come into the barn area, where the farmer's wife would have prepared, maybe, lemonade or iced tea, something like that for us to drink. … Then, she would have built a fire and we would roast hot dogs, or make hamburgers, supplied by the farmer, or that she'd have a big kettle over a fire with boiling water

and we'd bring ears of corn, right from the fields, in and we'd boil up the corn. … We'd have a feast on corn and eat our lunch, and then, we'd go back into the fields in the afternoon, until four o'clock. … Then, we'd come back into the farmhouse there, the barn area, and the farmer would pay you your dollar and he'd tell you whether he wanted you back the next day, or, "Come back again next week, because the beans are going to be ripe," or this or that crop will be ripe and he will want to pick them. … "We're going to do some weeding," or, "We're going to do some cultivating," or whatever he was going to do, and he'd tell you to come back a week later, if he could use you. Now, if you were a good worker and he liked you, you know, you'd come back, maybe, tomorrow and finish up the job. … We got ten cents an hour. We worked ten hours, which included the lunch period. So, we made ten cents an hour, working on a farm. However, I was looking for a better job. When I was a freshman, I was only thirteen years old, so, I couldn't actually work in a factory. New Jersey had very strict child labor laws, at that time. I couldn't actually get working papers until I was fourteen years of age. So, in my first summer out of high school, I was thinking of going back to the farm, but my father suggested, maybe, I should go talk with Mr. Champin, who was the owner of Champin Ribbon Mills. … Right, from his days in textiles, he knew this guy who owned this place, and so, I jumped on my bicycle, rode over there and said, "Hey, my father sent me over to see if you could use any help," and the guy hired me. So, I swept. I used to work on Saturdays, and that was my first job. I got away from the farm and I used to work on weekdays during the summer, and then, during the school year, I used to work on Saturday. … I did sweeping and cleaning the restrooms and sorting reeds. These were things that they used on the looms when they set them up. … They used to put tension on the strands with weights, that a person called the "loom fixer" used to set up the loom. I don't know that much about it, I still don't know that much about it, but the loom fixer had to use all these weights and he would test different weights of different sizes, and then, he would scatter these all over the floor. [laughter] So, my job was to come and stack them all up, you know, and I'd put the one-pound weights and the two-pound weights and the three-pound weights away, so that the next time he did a job, he could go over and grab a weight. … Yes, that's all I did, was arrange these weights and clean these looms and sweep up the dust, it was terrific, right, and then, clean the restrooms. … That kept me busy, and I used to love to do that on Saturday, because Saturday, when I'd go in, I only worked a half a day. So, I'd go in Saturday morning and do all my cleaning and I'd quit about lunchtime. The adults worked five-and-a-half days a week. So, they used to quit at noontime on Saturday, and I'd rush over to what would be called a fast food joint, a hamburger stand now, where they had these terrific hot dogs and they had a terrific sauce they put on them. It was tomato based, with onions and everything in it, and I'd order myself two hot dogs and a soda, probably a Nehi Orange or a Pepsi, or something like that. So, I had my lunch. So, I would look forward to Saturday lunch, actually, and I got paid, not ten cents an hour, I got paid thirty-five cents an hour. [laughter] Wow, whoa boy, and I only worked there a short time and Congress increased the minimum wage to thirty-seven-and-a-half cents. [laughter] So, I think I only worked there about a month and I got a raise to thirty-seven-and-a-half cents.

SI: You mentioned the strict child labor laws before. Were you old enough to legally work at the Champin Ribbon Mills? Had you just turned old enough?

JS: Yes. Well, … I couldn't actually work in the factory. I'm not sure that what I was doing in Champin Ribbon Mills was actually legal. [laughter] I don't know whether they would call that

working in a factory or not, sweeping up, but I couldn't operate machinery or anything. Anyway, the next [job I had was], … just before I started my sophomore year at Clifton High School, I began a work study program. … I got a job working all during the school term and it was on a work study program, where I went to school in the morning until twelve o'clock. … School started, homeroom was at seven-forty-five, [laughter] and then, I went to class at eight o'clock, and then, I went to four classes in succession. … I got no study periods, no lunch period, I was excused from physical ed., because I was in the work study program. … At twelve o'clock, I hopped on my bike, high school was about two miles, two or three miles, from where I lived, rode my bike to school, hopped on my bike, rode home. My mother fed me lunch. I went to Van Raalte's and worked in the stockroom until six o'clock, rode home, had my supper, did my homework, went to bed, and, for the next three years, that was it.

SI: What was Van Raalte's?

JS: … It was, "Van Raalte's, because you love nice things." They made women's undergarments, panties and hosiery, things like that, and I worked there as a stock boy. They called it a "stock picker." … It was a big plant, occupied a whole city block, between Getty Avenue and the Erie Railroad, and on the second floor was the stock room. … Strangely enough, I just walked in there and asked for a job. … I'd turned fourteen, so, I knew I could get working papers now, and so, they sent me down to the personnel office and they talked to me for awhile and they said, "Okay, you're hired." [laughter] So, I had to go get my working papers, and so, I started working in the stockroom. The first day I walked in, you walked upstairs and there was a row of cubicles over here, with clerks with typewriters working, and there's my aunt, my Aunt Betty, working. She was working in the … order department, billing, and so, I worked, you know, saw her there and we chatted. … "What are you doing here? You got a job? Wow." [laughter] It was a terrific reunion; I hadn't seen her in quite awhile. Anyway, I worked there for the last three years I was in high school. That was my routine, up to school, back, eat lunch, back to work, come home at six o'clock, eat supper, do homework.

SI: Did they tell you about the work study option at school, and then, you went for this job, or did you go for this job first?

JS: No, no, … I created my own work study thing. I went and got the job, and then, … went to the school authorities and told them I was going to work and I had work. That's all I told them, and they said, "Okay, we're going to arrange a special schedule for you now," [laughter] because you had to get your four classes. Otherwise, there were study periods in there, and then, the lunch period started at eleven, but I worked right through, and I was excused from phys. ed.

SI: The work study was specially created for you and was not a preexisting program. Did other kids participate in work study?

JS: Well, actually, to tell you the truth, I don't know that there was another kid in that school on that program, but I believe there must have been other kids working, but I don't know of any one specifically that I could name. … I started that as soon as I entered as a sophomore, and it was like that through the rest of the three years. … For awhile there, I didn't like it too much,

because I didn't get to see my buddies anymore, you know, and it was pretty much of a grind, actually, when you get right down to it, right.

SI: Yes, it certainly sounds like it.

JS: … Yes, and, of course, I was making money, but not in the sense that kids would think of it today. I didn't run home with my paycheck; I didn't get a paycheck. I got paid in cash. I didn't run home with my pay and buy CDs or records or anything. I gave it to my mother.

SI: Did your brothers have to do the same thing?

JS: No. … Well, as far as I know, they didn't work, as far as I know. Now, I won't say they didn't have odd jobs, but I don't think they were in the same kind of a program where they had a steady job like I did. … Of course, I don't really know too much of what happened, because, while they were going through that stage of their schooling, I was in the Army.

SI: Right.

JS: I graduated on June 23, 1944, and reported for duty on July 5th.

SI: What were the conditions like in both Champin's and Van Raalte's?

JS: Oh, big difference. … Champin was just a small organization and, you know, the conditions working there weren't very good. The ventilation wasn't very good, it was just an old factory, but Van Raalte's was very nice. … That was a big step up, and they had good working conditions and everyone treated me really well. They were always looking after me, my boss, Mr. Smith, for example.

SI: During those three years, you really did not have time to get involved in extracurricular activities.

JS: No, no, well, that was right. I led a completely abnormal adolescence. During high school, right, all activities were out. I … thought I might want to join the science club. I was interested in science, things of that sort, but my work schedule didn't allow that. … Actually, for awhile, I missed my buddies, because, you know, we would get together. When I was a freshman, we used to get together all the time. At that time, Clifton High School had one building and it was overcrowded. So, we did our freshman year in what they called "the annex," which was just an old elementary school that they had made-do [with] for the first year. … I was looking forward to getting up to the high school and maybe taking part in track, because the coach, Coach Donnelly, who … did the physical ed. part, right, you had to take physical education, … he used to run little footraces on the playground, and he thought I was pretty speedy. He suggested, "You know, maybe you want to think about going out for track." He said, "You're pretty fast." [laughter] So, I was thinking about that, but, then, I got the job and I dropped [it], but it wouldn't have worked out anyway, because, at that time, that was in 1941 when I started my sophomore year, and then, the war effort was picking up. The draft was instituted in 1940, they were drafting people, and the school was cutting down on athletic activities. … One of the first things

they cut out was the track team, [laughter] and they cut out a lot of sports, because, later on, people forget, during that war, everything was rationed. Not everything, but, right, you had gasoline rations, you couldn't buy tires for your car, sugar was rationed, meat was rationed, coffee was rationed, we had food rationing, but the war effort was so big, everybody was in it. I mean, it's not like anything since, not like the Korean War or the Iraq War; nobody even knows we're in a war. … When I was a kid, growing up, we knew we were in a war. We had air raid drills and all that sort of thing, and my father was an air raid warden. … We had a victory garden, along with the neighbors, and had a plot of land that was about, oh, I would say, an acre, an acre of land that we cultivated, the family members.

SI: Was it in the neighborhood?

JS: Like in a lot, yes, right in the neighborhood. It was only about two blocks away from where we lived.

SI: Okay.

JS: And my father used to go over there with other neighbors, right, and cultivate, and they didn't have tractors and everything that we have today. They dug everything up by hand, right, turned the soil, planted stuff, and we ate a lot of food out of that during the war, out of that garden. … During the war, we had periodic air raids, air raid drills, where, you know, they blew a siren, and these were usually held at night. … I don't recall we had many, if any, during the day, but, then, you had to equip your windows, so that your lights could not be seen. Air raid wardens came around, of which my father was one, checking to see that no lights were visible, that they could see no lights from any residence. … All the cars on the street had to stop, turn off their lights, and then, this thing would run for maybe ten minutes. Then, the siren would blow again and you could turn your lights on. If you didn't want to turn your lights off in the house, you had to fix your windows, all right. They'd put dark black shades and curtains up, so that no light came through to the outside.

SI: Before Pearl Harbor, had you been following the news about the war, or even before the war broke out in Europe, what Hitler and Mussolini were doing?

JS: Well, not really in the '30s, right, '38, '39. We were aware of what was going on in Europe, and there was, … you know, the big to-do about the United States getting involved in the war, right. … FDR promised he was not going to send American boys to fight in Europe, but it turned out that he really had to, and, of course, he had to do it. He did it sort of surreptitiously, right, Lend-Lease and all that kind of stuff, because there was a lot of opposition in the United States about getting involved in another world war. [Editor's Note: The Roosevelt Administration fought against isolationist interests to aid the Allies prior to Pearl Harbor with such initiatives as the Lend-Lease Program, which began in March 1941.] … Then, of course, after Pearl Harbor, the whole attitude, you know, everything changed. … Then, … talk about the boys going over, they had to convince high school kids to stay in high school and finish, because they were leaving to join the Navy and the Army, and all that kind of stuff.

SI: In your own circle of friends, or their families, or your own family, do you remember this debate taking place about isolationism and interventionism?

JS: Yes, somewhat, yes. Some people were anxious to get in. Most of the crowd I ran with, we couldn't wait to get in the Army, or the service, because everybody was going. This is post Pearl Harbor, right. The difference between, say, that war and, say, the Iraq War is, … the day after the initial incident, right, like the bombing of Pearl Harbor occurred on a Sunday, Monday, you had to stand in line to get into a recruiting station. … Authorities were actually discouraging young, seventeen, eighteen-year-old, kids from joining, going into the military. "Complete your high school education," that was all we heard.

SI: I wanted to ask a few more questions about your childhood and high school before we get more into World War II.

JS: Sure.

SI: Your family belonged to the Dutch Reformed Church, and you said that your grandfather was pretty involved.

JS: Well, yes, but … my mother was Presbyterian, so, … yes, we went to Sunday school. That was another ritual. … That's why we had the right Sunday clothing; Sunday morning, Sunday school, and then, came home for dinner. Sunday dinner was a big meal, right. That's when we had chicken. Now, you have chicken every day of the week, but chicken was special, like, "A chicken in every pot," that expression from the '20s, for every American. Chicken wasn't that readily available in the butcher shops. I mean, sometimes, you couldn't actually buy chicken. … Actually, they sold a lot of chickens. They used to have stores, poultry stores, where you'd go into the store and there'd be all these cages lined up, stacked up, and you'd pick your chicken. [laughter] … The proprietor would then, right, pick up the cage, these were all individual cages, he'd grab the cage that you selected and go into the back room, [laughter] and slaughter your chicken and dress it and bring out, here was your chicken, freshly killed chicken. Remember, … not everyone had a lot of electrical [refrigerators], at that time. This was in the late '30s. As I mentioned before, we got our first electric refrigerator in 1940.

SI: Everything had to be fresh.

JS: Right, everything. Yes, well, that's one of our main occupations. We got home from school, we ran down to the butcher shop, right. You had so many chores, right.

SI: If chicken was special and eaten only one day a week, what would you usually eat on most other days?

JS: Meatloaf, hamburger, pork chops, some kind of beef stew, some kind of soup. During the Depression, like … the worst of the Depression, sometimes, … our main meal was gravy bread, two pieces of bread with gravy. So, that's what we had. Now, that wasn't common; you know, we didn't do that weeks on end, or anything. It was just, occasionally, we'd run out of money. … Of course, the system, at that time, was entirely different from what it is today. … For

instance, the local butcher, the local grocery store owner, right, would let you buy groceries on tab, and so, he'd keep track of it. I would run down to the store, … when we lived on Columbia Street, and this was during the period up until 1936, … the worst of the Depression, right down the block was the butcher, Butch. He ran a grocery store and a butcher shop. So, my mother'd say, "Go down to Butch and get six pork chops," or pick up the this or that or another thing. … I would do that, that the first thing I did when I got home from school was to go to the butcher shop, get something, groceries, and, like, if it was pork chops, I'd get six pork chops. My father got two pork chops, then, my mother, me and my two brothers got one pork chop. That's the way it was through the Depression, or, you know, whenever we could call it that closely. … The pork chops were just gotten from the butcher shop that afternoon, right, after we got home from school. … Then, he would have a tab, he would have a book, and he would have all of, you know, his customers' names in the book and he would record what the pork chops cost. … Then, he would write on the bag what it was, and my mother would keep track of this. … Then, she would add this up at the end of the week. … Then, she would send me, right, she would … give me that much money, I would take it down to Butch on Saturday and pay the grocery bill for the week. Now, on occasion, she couldn't make it. She couldn't give me all that we owed him. So, then, he would carry us over to next week. But, then, … he couldn't carry you indefinitely, … but I know he carried many people for many, many weeks. … That's the way, you know, people in the neighborhood helped … one another out, and people helped each other out.

SI: What role did the church play in your life growing up? Was it an important part of your life?

JS: No, I would say very little, actually, although I attended Sunday school quite regularly. When I got to high school, I just quit going. I just wasn't interested in [it], and I got no real religious training that I would say amounted to anything. The Sunday school teachers were just, you know, … members of the congregation. … Although we did a lot of church hymns and singing and that sort of thing, you know, *Onward Christian Soldiers* and *The Battle Hymn of the Republic* and all of those songs I can sing, … but I never got more extensive religious training. … First of all, I didn't have time during the week, what with my schedule in high school, to get involved in activities. I led a completely abnormal existence for a kid at that age, at that time. I was, you know, out of the loop. Most of the other kids were involved in extracurricular activities and joined the German club and that science club. … I didn't even know about these things that were going on, because I never had the time to do anything like that. … So, I got to know a group of people in Van Raalte's, where I worked, right. … There was another stock boy who worked [there]. … He was from Paterson, though. He went to Eastside High School in Paterson. He wasn't from Clifton. Van Raalte's was in Paterson, because West Second Street was just two blocks from the Paterson line, and Van Raalte's was located on Getty Avenue in Paterson. So, we worked together. … Then, there was a kid who was only eighteen years old. He was waiting to be drafted. So, the three of us, we had our own stock boy group, you know, that we associated with one another and we'd take a break for coffee, when we had breaks and things like that, together. So, I had my own little group, but, of course, it was associated with work.

SI: What about your education in the Clifton schools? What did you think of its quality? What interested you in school?

JS: Yes. Well, I'd have to conclude that my education was pretty good, because, although … I classify the neighborhood I lived in as lower middle-class, I don't recall ever hearing any of my playmates talk about going to college. I don't remember a single one talking about college, and I never thought about going to college, to tell you the truth. [laughter] … When I graduated from elementary school, I had to decide what kind of a course I wanted to take in high school, and so, they gave you a little booklet and it described the curriculum that you could sign up for. Did you want to take a general course, did you want to take a college preparatory course or a commercial course, or what were the choices? … I looked at that. I brought this home and showed it to my parents. Well, they didn't know. … My father left school in sixth grade, my mother at eighth grade. They were not illiterate or anything. I mean, they could read and write perfectly well, get along, but they didn't really know how to advise me much. So, I just read this thing. … One Christmas, they bought me a microscope, which I had great fun with, looking at insect parts, you know, catch a fly and look at the fly's wing, and a chemistry set. By the time I graduated, by the time I left elementary school, … I knew I was interested in science. You know, I'd started reading about Thomas Edison and Louis Pasteur, and I had read some biographical material on them, which attracted my interest. … I think, when I was in the eighth grade, I got this book *Microbe Hunters* [by Paul de Kruif (1926)], which described a series of well-known microbiologists, like Pasteur and [Antony] Leeuwenhoek, the guy [who] invented the microscope, and I read about Galileo. … I was interested in mathematics and science, and I saw [in] the catalogue, they had a course in general science, in biology, in physics and chemistry and they had algebra and trigonometry and geometry, and I was interested in those sorts of things. I didn't feel I wanted to go to high school and study Gregg's shorthand or business arithmetic or business, typing. [laughter] "I don't want to do that. I want to study algebra. I want to learn something about algebra and science." So, I just … made that decision. I was going to sign up for what they called a "scientific course," that's what it was titled, and it was one of the college preparatory courses. There were two; there's a general college preparatory course and the scientific course. In the general college preparatory course, at that time, … students would take Latin and Greek and things of that sort, history, but, no, I said, "Forget about that kind of stuff." [laughter] I wanted to study mathematics and science. So, I signed up for the scientific course, and we forgot all about the commercial course and the general course and all that other thing. … With my work study program, I could just fit that in. So, I was going to class, you know. I didn't have … time to study, or do study periods, or any of the other activities that other students might have indulged in, in school. Like, in study periods and things like that, they had activities that they could get involved in; I didn't get involved in any of that. … I took, I think, four years of mathematics and four years of science, but, of course, there were other state requirements. I had to take English and I had to take a foreign language. I took German, and what else? I had to take a civics course, some kind of a civics course or history course, but I really didn't pay much attention to the other courses. [laughter] I concentrated. Of course, I got good grades in science. Now, what was I going to do when I graduated? … I really didn't know, okay, but, now, we were at war, and, at the beginning of my last semester in high school, in January of that school [year], military recruiters visited the high school. … The first guy to come through was the guy from the Navy, pushing an electronics technicians' program that was being offered to high school graduates to learn electronics, become an electronics technician in the Navy. You were going to attend the school at Great Lakes Naval Training Station, but you had to take this test. They wanted to see if you had the aptitude for it. So, I took the test, and I knew within a couple of weeks I'd passed the test, so, I had to … take a physical. … At that time, the situation was

organized. The draft was in force, right, and everybody in the north section of Jersey, around there, around Paterson, Passaic, Newark, in that area, Essex County, Passaic County, had to take their physicals at the Newark Armory. The Newark Armory was set up to give hundreds of people their physicals there every day, right. So, I went down there and I flunked the physical; not too good, right? So, well, that's out. So, I'm not going to be a Navy electronics technician, but I'm still going to join the Navy. … There were no other Navy programs that had come through, so, I went down to the recruiting station to talk to the Navy personnel about joining the Navy. … At that time, I was not old enough; I was only sixteen. I didn't turn seventeen until March. … That sort of ruled me out, but, eventually, I did go down and they sent me to Newark to take a physical, [laughter] and I flunked it again. So, I couldn't get into the Navy. In the meantime, along came a program. They posted a notice on the bulletin board that a competitive examination was being given … by the War Department for admission to the Navy College Training Program or the Army Specialized Training Program. So, I didn't completely understand what this was all about, except you had to take this competitive exam and you would have the opportunity to attend college, sponsored by the Army or the Navy. So, terrific; so, I signed up for the exam, which was given at one of the elementary schools at Clifton. I showed up there on a Saturday and took this exam, and I had an option of choosing which service I preferred. So, naturally, I selected the Navy and, lo and behold, I passed. So, I got a notification I passed. The Navy wanted me to come down. I had to take a physical. [laughter] Here I go, back to Newark Armory, flunked the physical again, three times in a row. [laughter] So, I figure, "Well, that's out. I'm going to have to be drafted," because you couldn't actually join the Army, you could only get in the Army through these special programs. So, I couldn't join the Army, I couldn't join the Navy, so, I was … planning on, "Well, I'll graduate and wait to be drafted." Lo and behold, in March, sometime in March, I got a notification from the Army that they had been notified by the Navy that I had passed the competitive examination and would qualify for the Army program, the reason being that I didn't go into the Navy because I flunked the physical. … They wanted to know if I would be willing to take a physical for the Army, to see if I could qualify for their program, and then, I would enter the Army Specialized Training Program. I said, "Sure, absolutely." Back to the Newark Armory, fourth physical, [laughter] but I passed, right. I was rejected because of my glasses, my eyesight, by the Navy, wouldn't accept [me], I couldn't qualify, but the Army took me. So, I signed up for the Army and I was sworn into the Army on May 3, 1944. Even before I graduated from high school, I was in the Army.

SI: Was there a stigma attached to people who were not in the service?

JS: Oh, yes, yes, my worst fear, my worst fear, was I'd be classified 4-F. … If you were 4-F, I mean, it was terrible. I mean, we just, we rode those kids something awful, if … we found out anyone was 4-F. Of course, at that time, you know, every household displayed a flag in the living room window. [Editor's Note: Family members hung Service Flags in their windows, a red-bordered white rectangle with a blue star in the center to represent each service member in the family. A gold star indicated an individual had died during service.]

SI: Yes, the banner.

JS: Right, the banner, right, with the stars. So, you could walk up and down the street and know, like my mother knew, which families had somebody in the service. [laughter] Everybody

on the street there, … you know, they had somebody in the service. So, she knew who was going in the service and who wasn't, yes.

SI: Going back to Pearl Harbor, where were you that day and what do you remember about it?

JS: That was a Sunday. … I was out playing somewhere, came home, and everybody's gathered around the radio, my mother and father. Everybody's talking about the attack on Pearl Harbor, "Wow. What? War." … Of course, then, FDR came on Monday and delivered his speech and we knew we were at war. … As I said, Monday, right, you couldn't get near the recruiting station. Kids were lined up to sign up.

SI: Was there any initial fear or panic in town, or in your neighborhood?

JS: No, I wouldn't call it fear, I wouldn't call it panic. All kids, right, … we wanted to get in there, in my age group, all, you know, seventeen, eighteen-year-old kids who had no business volunteering for war, [laughter] actually, but they had it. Some kids left high school. I know kids who left high school. Two of my classmates, two of the kids in the neighborhood that I knew, one joined the Navy and the other enlisted in the Army. He was over eighteen. They would accept enlistments at that time that he enlisted. … Then, of course, other eighteen-year-olds were waiting to be drafted, but, no, there was no panic. Kids were actually eager to go, right.

SI: Did you participate in any kind of scrap drives or bond activities, or anything like that, on the home front?

JS: Well, we had these bond activities. I didn't actually participate in any, but we bought savings bonds to support the war. Yes, we bought things. … The whole family actually participated in scrap collection. I remember, they came down Main Street, we had these trolleys in Clifton, for many, many years, and there were two sets of trolley tracks running the whole length of Main Avenue, I mean, from Paterson all the way through Clifton to Passaic. I mean, this is about ten miles of trolley tracks; they dug them up for the scrap iron and repaved the road. [laughter] That's how badly they needed scrap iron. … Of course, they had the air raid warden activities, and then, my mother worked for the Red Cross, folding bandages. Every Thursday, she would go to the local firehouse, where they set up tables, and housewives came in, right, and folded bandages for the Red Cross. She did that throughout the war, and then, we had the Victory gardens. So, everybody was really involved.

SI: Was Van Raalte's affected by the war at all?

JS: Well, yes, they had trouble. Well, that's probably why I had the job. They had trouble getting personnel. … You know, it was hard to hire people, because … nobody would work for the wage that Van Raalte's was paying and they could go to a war plant and make a lot more. I mean, there was … a big influx of personnel from ordinary jobs; like, clerks in grocery stores and such jobs that were non-essential, right, were forgotten. People were doing without. Everybody was going to work in the war plants, building airplane engines and trucks and that sort of thing. Yes, everybody, all my relatives, worked in war plants, except, well, my one uncle

was a policeman, so, he didn't quit his job as a policeman. He stayed on the police force, but my father's brothers, who … all had been in the textile industry, all worked in war plants during the war.

SI: Was Van Raalte's able to keep producing what they had been producing or did they cut back?

JS: Well, no, they had to cut back. … One of the benefits of working for Van Raalte's, at the time, [was] nylon stockings … had just been introduced and they were all the rage. Everybody wanted nylon stockings; all the women wanted nylon stockings. They were doing away with these rayon and silk stockings. They were out, nylon was in. Well, as an employee of Van Raalte's, I was allowed to purchase, I think it was six pairs of hosiery a month, [laughter] at … special reduced prices. … Of course, immediately, … all my female relatives heard of this, they wanted to know if they could get nylon stockings, because you couldn't buy them in stores. Nylon was going into parachutes and other military products, and they soon ran out of [them]. … Inventories of nylon stockings disappeared almost immediately and they were having to buy these older rayon hosiery, which they didn't like, and so, I was prevailed upon to get nylon stockings, but … there was even a shortage of nylon stockings. Of the six pair I could get, I could only get two pair of nylons. [laughter] So, I kept my mother and one of my favorite aunts supplied with nylon stockings.

SI: Before we go into the service, were there any other ways, that stand out in your mind, that life on the American home front changed as a result of the war?

JS: Yes, well, not anything in addition that I can think of. The big thing was all the kids trying to join and adults trying to keep them in high school and, of course, the air raids, you know, warnings and drills that we had to go through, and, of course, the shortage of materials, like coffee and sugar, [laughter] things of that sort. You had to get ration coupons and get those. That was a nuisance, … but, of course, there's the black market. … We were aware that people who had money, [if] you knew the right people, could get things. So, we knew there was a black market operating.

SI: Did you …

JS: Didn't. Aside from the materials shortages, meat was short. … We ate a lot less meat than we had previously, but, otherwise, no, it was pretty normal otherwise. … Everyone kept right up-to-date on the news, right. Every night, we were listening to what the casualty rate was or what battle was going on, this, that and another thing, kept up with the war news, and then, of course, FDR and his "fireside chats," I mean, … right, we didn't miss a fireside chat. [laughter] My parents were glued to the radio when he came on.

SI: You got into the program in March, and then, you graduated in June of 1944.

JS: Right. … I passed the Army physical, I was sworn in on May the 3rd, 1944, in Newark. I had to go back to Newark, [laughter] where I was sworn in. So, I was officially in the Army. I was told I should wait until they called me up. They said that, first of all, I had to graduate from

high school. I had to complete my high school education before they would actually place me in the college training program. So, there was a provision about my entrance into the college training program. I was in the Army and I was going to stay in the Army. I wasn't going to get out of the Army if I failed to graduate from high school. I was still in the Army, but, if I didn't graduate from high school, I wouldn't be assigned to a college. See, I was prospectively looking forward to being assigned to some college, and they told me … I would miss the summer session. The colleges operated on a quarter system; semesters were out. You went to college a quarter, four quarters a year, and, in the Army program, you went the whole year, and they said, … "It's too late. You're going to miss the summer quarter, and so, they won't call you up until the end of September." So, I told my employer, Van Raalte's. … I had a plan made out. For the first time in my life, I knew what I was going to do a couple months in advance. [laughter] I was going to work there full-time all summer, and then, I was going to take two weeks' vacation at the end of the summer, September. … Then, I would get my notice, my orders, from the Army and I would probably go into the Army. … So, they said, "That's fine, that's great. … Do what you have to do. We're okay with this," … and so, that's what I did. So, I graduated on Friday, the 23rd of June, 1944, went to work on Monday and worked, went to work on Tuesday, came home on Tuesday, [laughter] special delivery letter from the Second Service Command, "You are to report to Princeton University on the 5th of July by six PM." So, there I was. [laughter] Wednesday, I had to go in and apologize to Van Raalte's, that I wouldn't be able to work, but they didn't [mind]. … They were great. They said, "Well, that's fine. That's the way it goes." So, the next, what was it? the next Wednesday, I packed up and went to Princeton.

SI: What was that like?

JS: Princeton, or what?

SI: First of all, what was it like to leave your home to go off into the service?

[TAPE PAUSED]

JS: … Yes, well, you know, I'd never been away from home, actually. Well, that's not quite true. … I left out an episode of my early childhood that you might be interested in; that's when I went to a camp for underprivileged children. [laughter] Do you want me to continue with that, or should we go back?

SI: You can tell that. Then, we will go back.

JS: Yes, okay. When I was about, I think I was five years old, my neighbor, a buddy, Tommy Martin, we were … out playing together, right, and he asked me if I would want to go to camp. I said, "Well, what camp? Yes, sounds interesting, yes." "We could do this, that and another thing at this camp." I said, "Yes, but I don't think we can afford it. You know, I can go home and ask my mother, but it is not likely that we can afford to send me to camp." He said, "Oh, you don't have to pay. It's for nothing. The government is going to pay for it." I said, "Oh, you're kidding." "No, no, for real." So, he's convincing me that this is possible. So, I decided, "Well, this guy is stringing me along, but I'm going to show him up." I said, "Okay, yes, let's go, let's go. Where do we sign up?" So, we get on our bikes. … He leads me down to the city hall,

the city complex where they had city hall and the police station, into a building. I didn't even know what building it was. … He walks in there and he's in command, right. He talks to the person in charge, a clerk there, and she says, "Yes, … you can apply for this program." I didn't know exactly what he was saying. I didn't hear the exact conversation. So, this woman comes out with application forms, says, "You have to sit down here now. I'll give you pencils. You have to fill out this form, name and address and mother's name, father's name," things like that. Okay, so, when we finished, she looks them over and asked us some questions, "And how do you spell this? And how do you spell that?" She says, "You have to take these home and you have to get your parents to sign them, and you come back tomorrow with them. … Then, we can sign you up for a definite week for camp." I said, "Okay, that's great." [laughter] I went home, tromped into the house and ran with this application form for my mother's signature. Well, she blew her stack. "You can't go. This is for underprivileged children. You're not an underprivileged child. Who talked you into this?" blah, blah, blah. So, she was furious. So, I told her, "Tommy Martin took me down, Tommy Martin. Tommy Martin's mother's letting him go; why can't I go?" [laughter] … Off traipsed my mother to see Mrs. Martin, and she came back calmed down and said [that] I had permission to go. So, when my father came home, she talked him into signing, and, the next day, I went down and they assigned me a week and I went to camp for a week. … The routine was, you reported to the city hall, after all the paperwork was done, and you got on a bus that took you out to the camp. Camp Hope was out … on a lake somewhere in North Jersey. I really don't even know where it was, [laughter] but the county was paying for this, and then, they picked up the kids that were out there and brought them back. … Then, the following Saturday, they'd bring in a new bunch, and then, you took the bus back home. So, I was a little bit skeptical about, you know, packing up. They told you what to bring, a toothbrush and underclothing and pajamas, and went out there. … Oh, I had a great time at that camp. It was terrific, yes. We went hiking in the woods and swimming, made our own bunks, you know, in the bunkhouse, and we had these college students on summer break as camp counselors. … We had fires in the evening, where we roasted marshmallows and the counselors told us stories. … Then, we did crafts and we had ballgames during the day, activities, right. Actually, I was introduced to something new. I was surprised at the first meal we had. … We arrived there Saturday morning, we had lunch. We went into lunch. They sat us in a dining room which had tables like this, circular tables. So, we had … seven campers and a counselor at a table, see, college students acting as counselors, so that they'd see that the kids behaved. … Boy, they had this big plate of bread, three types of bread, white bread, which I recognized, rye bread, and then, another kind of bread. I didn't know what it was. So, they told me, "It's whole wheat bread." [laughter] So, I thought I'd try some whole wheat. Well, we got butter, they had big, you know, big globs of butter they're passing around. We could eat as much as we wanted to. … So, I tasted whole wheat bread. Well, I ate whole wheat bread for the rest of the week. [laughter] That's all I would have, was whole wheat bread. That's the one thing that stuck with me after all these years, the first time I ever had whole wheat bread, and I had a great time. …

[TAPE PAUSED]

JS: We had a great time.

SI: Let me put this back on.

JS: Okay. Some of the kids were homesick, though. A couple of them had to have their parents come pick them up. [laughter] … They were casualties, but not me. Boy, I was ready to stay another week.

SI: You did not continue camping later on in your life.

JS: Oh, no, that was the only time I ever went to camp, yes. I never went to camp again, no. I don't know whether the program was continued the next year or what happened, but that was the only [time]. … Actually, that was the first vacation, right, that I remember, that I ever did anything like that. … During the Depression, we didn't go on vacation, right. There was no such thing as a vacation during the Depression.

SI: Yes, you left in July of 1944.

JS: Right, so, in July '44, … I packed my bags. They sent us a whole list of clothing to bring, shirts, how many pairs of pants, and in great detail, holy smokes. … So, we got this letter on Tuesday. I went in and left the job on Wednesday. My mother dragged me down to the clothing store in Paterson on Thursday and bought me shirts. [laughter] I wasn't going to go with these old shirts, "I can't let you go into the Army with these old clothes." … I had to get new slacks, I had to get new shoes, I had to get new shirts, … had to buy luggage. [I] trot down, took two busses to get to Newark, to Penn Station in Newark, got on a train, got off at Princeton Junction, took a little connecting train into Princeton proper, reported into Princeton University, and they signed me up, on Wednesday, the 5th of July, and immediately told me to send all my clothes home. They were going to issue us uniforms. [laughter]

SI: I wondered why they made you buy all that clothing.

JS: Yes. Oh, was I steaming. I knew my mother, you know, I mean, … spent all this money, which, you know, was not too plentiful, never had been too plentiful, on these clothes. So, I had to drag them all home, yes, and started my college training in Princeton. I was there for three quarters, until March of 1945.

SI: Were you placed into a track, an engineering track or a language track?

JS: … Well, yes, I was placed in an engineering track. Now, my understanding was, right, when I signed up, … going back to my original signing up, [laughter] I wanted the Navy; I had to settle for the Army. In the Army, they had a couple of programs, of which engineering was one, but they had pre-med, right. So, here, I'm thinking, "I'm interested in science and I like biology." So, I'm figuring out, "I'll get into this pre-med program." In the pre-med program, you went to school for two years, but you didn't get a degree, but you got admitted to a medical school, because there's a tremendous shortage of physicians and the Army was training doctors, sending kids to medical school. Then, you entered medical school and you completed medical school in three years, instead of four years. So, that's a total of five years. … Then, you were commissioned in the Medical Corps, right, and you had to serve in the Army for an additional five years. … Then, you could make up your mind, whether you want to stay in the Army or leave, right. So, I figured, "This is ten years. I'm seventeen now; twenty-seven, I'm going to get

out of the Army with an MD. What could be better? That's going to solve all my problems, right, as far as education or anything was going," but, oh, no, the medical pre-meds were full. So, I had to take engineering. That was my option, [laughter] engineering or nothing. I had an alternative. I could refuse the engineering curriculum, if I wanted to, but, then, I'd go home and wait until the Army called me up. They wouldn't call me until I was eighteen years old, but, now, I had just turned seventeen. What am I going to do? I can't get a decent job or anything, because they know I'm going away. Anyway, I wouldn't consider that, anyway. So, I accepted the engineering curriculum. So, I entered the engineering curriculum, right, and I have a certificate from it, as a matter-of-fact; hit that button.

[TAPE PAUSED]

SI: We are looking at your certificate, "Completing the course of study in basic engineering at Princeton. Completed on March 31, 1945," and H. W. Dodds was the President of Princeton.

JS: Right.

SI: Yes, and the lieutenant colonel in charge was (Elliott Baldwin?). It only took three quarters to earn this certificate.

JS: Right.

SI: Obviously, they must have compressed a lot of material into a very scant amount of time.

JS: Yes.

SI: What was a typical day like in the ASTP Program?

JS: In the ASTP Program, we went to school six days a week. You got up in the morning and you marched. … The Army units were formed into sections … and each section was like a class. … You moved with the class, but you marched to class with a section leader, "One, left, right, left, right." So, you went to have breakfast. After breakfast, you cleaned up your room. There was a room inspection every day. Then, you went off to class, marched to class, and we were in class all day, until five o'clock. … Then, we went to supper, marched to supper, [laughter] and we had to be back in our room at six-forty-five, quarter of seven, where we had to be at our desks studying, or, if we left our room for any reason, we had to leave a note on our desk explaining where we were and what we were doing. … We were subject to inspections to see that we were studying, and then, at ten o'clock, they blew a siren, right, and the study period was over. So, you had time to get down to the toilet and brush your teeth, or take a shower or do whatever you wanted to do, and then, ten-fifteen, lights out, that was it. Then, you got up the next day and did the same thing, and we did that five days in a row. … Saturday, we only went to school until one o'clock, and then, you were off from one o'clock until Sunday evening. I think we were off, like, about thirty hours, or something like that, and we did that. The only day we had off in 1944 was Christmas Day. We went to class on Thanksgiving Day, Labor Day, no holidays. [laughter] Christmas Day was the only day we had off, and I did that through March 31st, right, completed three quarters.

SI: All the professors had been professors at Princeton.

JS: Yes, … oh, yes, they were all regular Princeton professors. The only military people we had were in military science, because, in addition to the regular college courses, … oh, we had physical education, you know, regular, every day, practically, and we had military science, in addition to the regular course, and then, we had drill, close-order drill. … I mean, it was a real rigorous program, let me tell you. I arrived there on a Wednesday. … The first formation we had, they handed us a copy of the *FM 22-5, Infantry Drill Regulations*, IDR, they called them, and the captain is out there. He's a veteran of the North African Campaign. I've forgotten his name. He said, "I want each of you to memorize the position of attention, which is described in this manual." It's how to do drill, march, you know, in accordance with commands, infantry drill regulations. … The position of attention is, like, a whole paragraph, several sentences long, and it tells you how to stand, … your foot placement and where your hands should be, where your thumbs should be at your sides. [laughter] ... That was the first thing you had to do, was memorize that, and then, be sure you know your serial number, because we would have inspections, and we got dog tags issued. … The next day, we had an inspection and here's the captain asking people to recite the position of attention, and asking you … what your serial number was, [laughter] … yes, and we had inspections regularly. We had room inspection every single day. That room had to be tidy, up to snuff.

SI: Did a lot of guys wash out?

JS: Yes, it was highly competitive. … I arrived there on a Wednesday. Thursday, we spent all day taking tests, right, and then, Saturday, a big truck moved up and a whole bunch of guys left. [laughter] I don't know where they went, don't know what happened to them, to tell you the truth. Well, we eliminated people every quarter. I think they only allowed you two "Cs." You got two "Cs;" if you got three "Cs," you're out of the program. … The program got fewer and fewer people as time went on. [laughter]

SI: Was it a big change for you to go from your education in Clifton to this level of education?

JS: Yes, I think it was. … Remember, the country was organized into service commands. We had seven service commands. The First Service Command was New England. The Second Service Command was the Mid-Atlantic States, New York, Pennsylvania, New Jersey and Delaware. So, this program was organized [so that] if you enlisted as a resident of one of the states in the Second Service Command, you went to a school in the Second Service Command, like Penn State or NYU, New York University, or Princeton or Rutgers College. Rutgers had a unit. Well, I was assigned to Princeton. So, what was I going to say? [I] lost my train of thought here. … The students who came in were mostly from Pennsylvania and New York, not too many from New Jersey. Most of the kids that I became acquainted with lived in New York, as a matter-of-fact, and they were all Regents graduates from New York and, boy, these kids were pretty smart. They knew a lot more math than I knew. So, I was a little nervous there for awhile, but it didn't take me long. I caught up. I was straight "As" in physics and chemistry. In chemistry, I had no problems whatsoever. As a matter-of-fact, I was the envy of the guys, of my section, because they said, "You never crack a chemistry book. How come you can get such

good grades, huh? You never cracked a physics book. How come you can get 'As' in physics?" because, at that time, you know, "As" were rare. People rarely got "As," and I remember, you used to find out your grade, they posted it on the bulletin board. See, like, today, they wouldn't allow a university to do that, right, because everybody would see what grades you got. … You'd stand around and see who got "As," you know, and who got what, [laughter] yes, but I remember. … I think that reflects well on the teachers I had in Clifton High School. I think we had a super, super chemistry teacher and a super duper physics teacher. … As a matter-of-fact, I still have the book. When I took high school chemistry, I bought a book called *Principles of Chemistry* by Joel Hildebrand, a professor at the University of California, Berkeley. As a matter-of-fact, hit your button again. …

[TAPE PAUSED]

SI: Let me turn this back on.

JS: Yes, I used this book, right.

SI: *Principles of Chemistry*.

JS: *Principles of Chemistry*. … I got this when I was in high school, and I read this in addition to my high school chemistry text. Then, when I got to Princeton University and freshman chemistry, I simply discarded the book, because it was the same book … they used in my high school, Conant's book, James B. Conant's book on chemistry.

SI: Yes, at Harvard University.

JS: At Harvard, right, the President of Harvard, but I didn't bother. So, I just left my book on my desk. I never cracked it. [laughter] I read *Principles of Chemistry*; I took this book with me, … yes, but we had good [teachers]. … I've attended something like six universities in my lifetime; I would say the best instruction I ever got was at Princeton and Rutgers. They were great, especially the chemistry and physics people at Princeton. They were super teachers.

SI: You were telling a story about Joel Henry Hildebrand coming to speak to you and some of your classmates.

JS: Yes, he came to speak to the group. He was eighty years old at the time, right, about as old as I am right now, [laughter] yes, and he was in good shape. Yes, man, he gave a terrific lecture to the group.

SI: Where was that?

JS: … At MIT [Massachusetts Institute of Technology], on the campus, yes. … He was an expert on nonelectrolytes, and he was explaining the scientific method to us and how he did his research and collected data and analyzed it graphically, and things of that sort, yes. I couldn't believe this eighty-year-old man was standing there, came all the way from California to give us this little lecture, to the chemistry students at MIT, yes.

SI: Do any of those professors at Princeton in the ASTP Program stand out in your memory?

JS: Oh, yes, Turkevich, John Turkevich, who taught chemistry, and, in math, there was a guy named Martin. … He left to go to the University of Chicago while I was at Princeton, but I had him for one quarter of math. He was promoting the New Math. Remember the New Math, came out after World War II? Of course, I guess you wouldn't. [laughter]

SI: I have heard of it.

JS: Yes, you've heard of it, yes; they switched to the New Math. Well, he was one of the advocates of the New Math, and he was sort of an oddball. … See, we had a curriculum that was specified by the War Department, but it was taught by Princeton University, and, of course, … it was taught with the approval of Princeton University. I mean, it had to be equivalent to a Princeton University course, otherwise, Princeton wasn't going to teach it, right. That was sort of the rule, … but he was pushing New Math. So, we spent a lot of time studying the New Math, rather than, you know, the assigned, what was it, algebra? No, it was beyond algebra; analytic geometry that we had. … We had six days of math all throughout that program, six math classes a week. We had two math notebooks for your homework. … One week, you did your homework in book one, then, on Friday, at the end of week one, you handed that in to the teacher and he handed you book two, and then, week two, you did your homework in book two, and, on Friday of week two, you handed him your new book and he handed you your old book, which, presumably, … he had looked at and graded, and that's the way it went. [laughter] So, we did homework every night in mathematics. … We did a review of algebra; I remember, one night, we had 102 math homework problems, [laughter] in one night, 102, practically filled up that book. [laughter] Yes, oh, they kept us busy, man, I'm telling you.

SI: Did you have time to go home on Saturday and Sunday?

JS: Yes, … actually, most Saturday and Sundays, I got home, because I had to bring my laundry home and … my mom did the laundry. [laughter] … See, we were on our own from Saturday, right, until Sunday evening, and then, I would have to eat, and the guys ate out. Remember, in this program, we were not paid. We didn't get any pay for this, and so, I was always short of money. So, a lot of the times, I would go home. Now, my parents paid for my train fare, to get me home, and fed me on the weekends. … I would say half of the time, I was home, and the other half, I stayed.

SI: Do you have any idea of the backgrounds of the other people in the program? Were they like yourself, just out of high school, or had they had some college experience?

JS: They were all high school graduates.

SI: They were just out of high school.

JS: Many of them, however, … attended prep schools. We had a lot of people that came from prep schools, and they were pretty smart kids, yes, wow. I thought they were all, you know,

more advanced, I thought. I had the impression they were more advanced than I was, in science and engineering, or not engineering, in mathematics, but, as it turned out, I was one of the better performing students in the unit, yes.

SI: Did they ever explain what you would be doing with what they were teaching you? Did you have an idea of what your service afterwards would be like?

JS: … No, not the vaguest notion. … We were told to concentrate. All right, we're going to college, "Concentrate on the college courses. We want people trained in engineering and science." They didn't say anything about what our assignments might be or where we would go. … So, it turns out, on March 31st, when I completed this program, I was shipped off to Fort Dix and I was sent to [the] infantry replacement training center at Camp Gordon, Georgia. I was in the infantry. [laughter] That was my big reward for doing well, right, in the program; I was in the infantry. Of course, at that time, remember, in 1944 and '45, Winter of '45, was the Bulge, right, and a lot of the trainees were being shipped overseas. [Editor's Note: The Battle of the Bulge, or Ardennes Offensive, began with a surprise attack by the Germans in the Ardennes Forest on December 16, 1944, and lasted until January 25, 1945.] I was lucky; I just missed that, right. If I had been in the regular Army, I'd have probably been over in Germany, and then, well, yes, I guess I just was lucky. The timing was, as I look back, right, after all these years, everything, the timing and the coincidence of all these events led me to a good outcome, right, without any planning or thought to what I was going to do next, or where I was going, except until I got to my scheme for obtaining an MD degree in the Army. [laughter] That was thwarted immediately. … Then, of course, when I completed this third quarter, I found myself in the infantry, and that was an eye-opener. Oh, I could not believe it. That's the furthest I've ever traveled. You know, of course, prior to then, Princeton was the furthest I'd ever been away from home. I'd never been [away from] home, except Camp Hope. Princeton was the next place, and then, the next place was Camp Gordon, Georgia. Well, I got to Georgia and I found myself in an infantry unit with a whole group of draftees from Alabama, Mississippi, Louisiana, Georgia, South Carolina. … Facilities; you know, the Army was not integrated then, of course. It was separate, and, of course, in Augusta, in all the facilities, public facilities, it was, "Colored," right. I never imagined that. It never occurred to me that that segregation was present in the United States, … because, in Clifton High School, I only knew of one African-American student. Otherwise, I didn't know any African-Americans. … We called African-Americans Negroes, whenever we mentioned them, and we very rarely even mentioned them, but they were referred to as Negroes. One way or another, we didn't think of them. This kid, his name was Leslie Nash, Jr., was in my civics class, and I envied him. He was a little bit older, I think a couple years older, and he worked on *The Clifton Leader*, which was a weekly Clifton newspaper, and, sometimes, his articles appeared in *The Clifton Leader*. So, that was very impressive. … Of course, in civics class, he was always, right, … right on the topic and he knew about, you know, the Legislature, … things that I never paid … very much attention to, because I was absorbed in science and math and things of that sort. Anyway, actually, I didn't know him very well. … I would say hello to him if I passed him in the hallway, or we would greet each other, but, otherwise, I didn't know much about him. … That was the only contact I ever had with an individual, … an African American, black race, and then, I wound up in Camp Gordon, outside of Augusta, Georgia, and got a view of the countryside around there and these sharecroppers on these farms and the segregation of the colored people. I'm in the Army with all these eighteen-

year-old kids from; [laughter] well, I'm a eighteen-year-old kid myself, right, but they're having a great deal of difficulty, because, for instance, I made friends with a kid, … and I can't remember his name, I don't know why I can't remember his name, from Alabama, just turned eighteen. They drafted him. He was married. His wife's sixteen years old. He's got a baby boy at home who's about a couple months old and he's got no way to communicate, because he can't write, and they can't write very well. So, he's got no letter writing skills, right, and he can't go down to the phone and make a phone call. It's impossible. These people are out on the farm someplace, sharecropping. So, I used to help him write letters. I used to write his letters home for him, and then, read his letters … that he used to get from the family. … Then, I had another kid that was from Upstate New York, a Native American Indian from New York, upper New York State, was practically illiterate. He couldn't write, either, oh, and he was a lot better. He wasn't as bad as this other kid, but I couldn't believe there were such kids, you know, in the Army, in the United States. I thought everybody was like me. [laughter] They went to high school, they graduated, they got drafted or they joined the Army and got in the military. … They had a good way of finding out if you were illiterate. … I got off this troop train after traveling from Fort Dix, New Jersey, thirty-six hours later, filthy, dirty. We had to sit in these cramped coach seats on this train with … all our equipment in two barracks bags, which are stuffed under the seat. … We ate K rations, cold, no hot food or anything, and we lined up, [they] load us on trucks, take us into camp. … This officer comes out and calls the roll, make sure we're all there, right; a couple of guys are missing. … Then, next question he asks is, "Is there anyone among you who's unable to read or write the English language?" I thought, "Is this guy joking? [laughter] He's got us out here at one-thirty AM, after thirty-six hours on the train, worrying about whether we could read or write the English language. What's the matter with this crackpot?" Anyway, they had coffee for us and let us take a shower, and then, of course, we got organized into [companies], you know, assigned to our official companies. … Bejesus, we got no sooner organized and another officer comes out and asks us the same question, "Is there anyone among you who's unable to read and write the English language?" I said, "What's the matter with these guys?" [laughter] Anyway, it turns out there were quite a few of us who couldn't, … but they wouldn't step forward. The way they found out about that, for the first week, we had to take this intensive course in first aid, and so, you were confined to the company area. You could not go to the PX, … you couldn't leave the company area. … Then, Saturday morning, you trooped into the mess hall and you sat at these benches in the mess hall and you took a test on first aid. So, the typical mess hall, right, the middle isle is clear, and then, perpendicular to the middle isle are these tables. … They looked like picnic tables, where the seats are attached to the table and everything, and you sit four, one, two, three, four guys on each side, so [that] there's eight guys at a table. I'm in the middle of the table and they pass out the blue books. They used a blue book for you to answer the questions, and we have to fill out this form on the front, right, your name and address, company, outfit, serial number, and all that personal information on the book. So, they passed this out and [said], "Hold it. Don't do anything." They give instructions, what we're supposed to do before we open our books, and [say], "Okay, fill out the form." So, I fill out the form. Zip, zip, zip, I'm all done, and so, I'm looking around and these guys haven't even got their name written down there. "What's the matter with these guys?" Some of them are doing okay. Then, we open the book, take the test, and the test is … a few simple questions, true and false, right, and write some, you know, little writing we had to do, one word, one-word answer, and these guys are staring and staring and staring. Well, in ten minutes, I'm all done, and I didn't know, "Should I get up and hand my paper in or what should I do? [laughter] Should I sit

there?" and I'm looking around. I didn't want to, you know, give them the impression I was copying anything or cheating, and these guys are struggling and struggling, and they're still filling out their name and address thing. So, I stood up, … got out and walked up, handed my paper to the sergeant who was in charge. … Then, a couple of other people did that right after me, … but a lot of others were still sitting there. Well, that's how they weeded out the guys who couldn't read or write. Zing, ship them out to Camp Drum, New York, reorganize the squad, reorganize the platoon. [laughter]

SI: All the guys who could not read and write were sent away.

JS: Yes, well, right, … they disappeared, were no longer in our organization.

SI: What percentage do you think that was?

JS: I would say a good, at least, ten percent of those guys, maybe even more. Somewhere between ten and twenty percent of them, yes, and the others that remained weren't all that good, I mean, could barely, you know, read or write. …

SI: The two guys who you talked about previously were two of those who remained.

JS: Yes, they both remained, for some reason or other. I don't know why, how they remained. See, I met these two guys after, … after the test and the reorganization. I was in the new squad now with new squad members. … I was in Squad Three; they were both in Squad Four, across the hall, across the barracks from me, both of them. … So, I was in the rifle company, and I was assigned training as a company scout. So, I was going to be an infantry scout, [laughter] but I only got into that for five weeks and, the next thing you know, I'm called up before a disposition board. I didn't know what this was all about. … They broke me out of training and told me to report to this disposition board, which I didn't even know what the disposition board was, over at such-[and-such] a location. So, I had to sign out of the … company clerk's room, where they sign you out, the time you're out and the time you get back, so that you can't waste any time. I popped over there. I appeared before a board. I entered this room. Here's a major sitting, he's in charge, right, he's the head guy, and he's got this flock of officers around him, and I didn't even know what I was doing there. So, I reported, you know, to the major. I knew what to do, and so, he asked me if I had any difficulty completing my training because of my poor vision and I said, "Well, no, I've got corrective glasses." The Army issues you glasses and everything. I didn't have any trouble. I didn't feel I had any trouble completing my training at all. So, that's all they asked me, and they said, "Okay, excused." [laughter] I was excused. I walked out, went back into training. A couple weeks later, I'm on special orders. They took me out of the rifle company and put me into heavy weapons. [laughter] So, I was assigned to a new company, in heavy weapons company, and I learned how to, you know, handle a heavy machine-gun and an eighty-one-millimeter mortar and completed my training. [Editor's Note: Dr. Struck is referring to the eighty-one-millimeter M1 mortar, the standard mortar used by American infantry units during World War II.] … I was there about five months, at Camp Gordon, Georgia, and the last [thing], when we were finishing up our training; one thing I liked about the Army was, … I'd never been part of an organization since then where there's the *esprit de corps*, "one for all and all for one" spirit. … Everything aside from your squad was secondary, right. Of course, then, it

came to the platoon level, right, and then, of course, the platoon is part of a company and a company was part of a battalion, but your first loyalty was to your squad mates, you know, people in your squad. … I've never seen the spirit like that anywhere, because we'd go on forced marches and the more physically able among us were carrying the rifles of the less … athletically talented, or less athletically able, because we would not have any member of our squad fail to complete the forced march, right. That would have been a disgrace, so, we couldn't tolerate that, and so, we made many forced marches in the infantry where the younger members helped out the older, because … I was in with some older draftees. I was the youngest guy in the company, by the way. They looked for that. I was the youngest guy in the company and … a member of my squad was the oldest guy in the company. He was thirty-two years old. [laughter] … He never completed a forced march in all the time he was there. He just physically couldn't do it. Yes, strange, but, … you know, I was young, eighteen years old, ready to go.

SI: Was the five months of training mostly weapons training and physical training?

JS: Oh, yes, physical training, unbelievable. Man, I was never in such good shape. [laughter] … When I went into the Army, by the way, I weighed 119 pounds. So, I was a little guy, little squirt, and that physical training was pretty, well, I won't say drastic, but, you know, it was pretty intensive. We got a lot of physical training and forced marches, and they don't care how hot it was, whether it was raining out. We had exercises, we were out in pouring down rain. [laughter] We were out there training, no time off. You got up, say, five-thirty in the morning, we're out, stand reveille, yes, wow, but I was never in such good physical shape as I was then, let me tell you, ever since. We'd run those obstacle courses. … The Army was good. I will give the Army credit, because I never had had these experiences. I didn't know what a pistol or a gun was. We couldn't call it a gun. You called it a gun, you're in trouble. It was a rifle, or a piece or a weapon, never a gun. [laughter] So, we had M-1s and, of course, we trained day and night on those M-1s. … They were semi-automatic; are you familiar with M-1s? [Editor's Note: Dr. Struck is referring to the M-1 Garand rifle, the standard American infantry rifle of the Second World War.]

SI: Yes, you pull the trigger and the next bullet chambers.

JS: Right, they're semi-automatic, and they have, right, the locking in the breech. You've got to open that. We had to be able to disassemble that and take out the bolt, blindfolded, in eight seconds, [laughter] and put it back together, yes. … Day after day, repeat, repeat, repeat; learn how to aim the rifle, you had to learn all the firing positions. Army has official positions which you fire from, the prone position, the kneeling position and the standing position and the squatting position, four, and you had to know what those positions were. … Then, after a certain number weeks of training, you went out and where you were doing dry runs all the time, right. … You had to learn how to take care of your rifle and oil it and keep it clean, and they were always inspecting them to see that your rifle was properly taken care of and all that kind of stuff. [laughter] … I went out to there and got on the range … and we were firing for record. This runs the whole week. We bivouacked, we lived in the field and we had a certain number of days of practice, and then, we had to fire for record. This was to see if you could qualify as a marksman or a sharpshooter or an expert. … You had to fire so many rounds at a target, so many rounds from the hundred-yard line, so many rounds, so many shots, from the two-hundred-yard line, and

then, finally, they got you to the five-hundred-yard line. [laughter] Wow, you just about [could only] see that target, and you only fired from the prone position, because you couldn't possibly hit a target from a standing position or a kneeling position or a squatting position. So, you fired from the prone position. … Then, you had a coach, and then, there's a guy behind you with a telephone who was in communication with the guy who was manning the target in the pits, what they called the pits. The targets were mounted on top of a big mound of earth, right. … Well, the targets, actually, they had a ten-inch bull's-eye, it's ten inches in diameter, and then, they had the four ring around that and the three ring, right. So, the target's about, oh, I don't know, two, three feet wide, … in a frame three-foot square, and this thing is mounted on pulleys with the guy in the pit, right. He's down below. The earth is all mounded up in front of him and he, on a pulley, he pulls this target up and it goes up. So, now, the guy who's on the firing line, way down there, can see it and fire at it. … Then, when a bullet goes through the paper target, or … pasteboard target, he can hear it. It makes a big, loud whack. So, he knows the shooter has placed a shot in the target and he pulls the thing down. … He looks where the hole is and he pushes the thing up again and he has a big stick that goes way up with a circle on [the end] and he holds it where the bullet hit the target, so that the shooter can see where he hit the target, to the left or to the right, into the bull's-eye or wherever it was. … Then, when we fired for record, the coach was coaching the shooter and there was a guy behind him with a telephone who was in communication with the guy in the pit who ran the target up and down and would declare what your score was. … He would tell him he scored five for the bull's-eye, or four in the four ring, three ring, two ring, or a zip; … we called it "Maggie's drawers." He'd hold up a red flag and wave it, because, sometimes, he would be sitting there waiting for somebody to hit the target and time would go by and time would go by and the shooter would fire and the target would stay there. … So, they'd call him in by phone, "Pull target." So, then, they'd pull it down. "No, he had missed the target." That's why he didn't pull it down; the marksman missed the target completely. So, then, a red flag would go up. So, everybody would see that you made a "Maggie's drawers." [laughter] Anyway, that was a really good week in the field. We lived in the field. We got a helmet of water a day to wash in.

SI: Just to wash in. Could you drink any water?

JS: Yes. Well, you had a canteen. You put drinking water in your canteen, but we ate in the field. … You got a helmet of water every night when you got back, which was late, practically at dusk. We'd fire until it got too dark to see. … You got back to your campsite and they'd give you a helmet of water, so [that] you could wash up. [laughter]

SI: Was this in the summer?

JS: This was in the summer, yes. This was in the Summer of '45. I was there, well, in April. I started there in April, May, June, July, August and September, took my training. It was hot out there in the summer, in those infantry training maneuvers, in those marches. It was really hot, yes. The guys used to get cramps and everything. … They used to give you salt tablets. So, you're supposed to take your salt tablets, but guys couldn't take their salt tablets, for some reason or other. I don't know why, they couldn't swallow them or what, and so, they suspected [that] people weren't properly taking their salt tablets. So, at reveille every morning, you had to open your canteen and they'd drop in two tablets, salt tablets. So, then, you'd drink salty water. I

mean, you'd be out, right, ninety-five degrees, you're panting, your sweat is pouring all over you; you want a drink of water. … You're carrying this canteen of water with you all day, its temperature is, what, ninety, eighty degrees? salty water, warm, salty water. God, I used to hate that. [laughter] That was one of my pet peeves; they couldn't trust me to take my salt tablets.

SI: Everybody had to do that.

JS: Oh, yes. At reveille, they lined you up, yes, right, and your squad sergeant would come down, you'd open your canteen, he'd drop two tablets, and then, put the top on your canteen and you'd shake it up. [laughter] … Of course, you drank from that all day while you're out in the field. You get one canteen, or we're on water discipline. Some days, they took the canteen away from you. You were on water discipline; you're not allowed to drink any water. So, you got used to that.

SI: Going back to the other men in your unit, were there other ways that the North-South dichotomy came up? Did everybody get along?

JS: No, we got along. … The Southern guys didn't like Yankees and Yankees didn't like Southern guys, … but it wasn't anything, you know. We got along pretty well. I won't say there were never any fights or arguments or anything, but, … yes, the Southerners all thought … they knew how to shoot. They didn't need the Army to teach them how to shoot; they went hunting with Grandpa since they were knee high to a grasshopper, you know, and all that sort of thing, right. [laughter] Well, out of our company, 250, right, I told you, … you kept score when you qualified and you were either a marksman, [for which] you had to score 140; to make sharpshooter, you had to score 180; to [make] expert, you had to score 190. That was out of 210 possible points. In other words, if you got all straight bull's-eyes, you'd have a score of 210. Okay, so, out of the company of 250, approximately, two hundred and some personnel, there were zero marksmen, two sharpshooters, of which I was one, and one expert. Yes, so, that's why I say that I didn't know the first thing about a gun or how to fire a gun. I've never fired a gun since. I never had a BB gun. Guns were [not acceptable], in view … of my grandfather's pacifist beliefs, right, and this sort of was rubbed off on my father. He wouldn't hear of going hunting. He would never hunt, never had a gun, never owned weapons of any kind. They trained me to fire that M-1 and I scored 182 points, without having any previous experience or familiarity, or my grandfather taking me out shooting since I was six years old. [laughter] … They had this rigid discipline. I mean, we spent hours aiming that rifle, taking it apart, putting it back together. Yes, it was really an experience. I sort of enjoyed basic training, which people think, "This guy's crazy," [laughter] but I did. I really enjoyed basic training. Yes, I looked forward to doing these kinds of things. I wanted to learn how to fire that rifle properly, accurately, and, of course, we'd trained … with machine-guns and eighty-one-millimeter mortars. They were great.

SI: Do you want to take a break now?

JS: Yes, could we? I think I'm not used to talking so much. …

[TAPE PAUSED]

SI: Let me turn this back on.

JS: Okay. In September, I completed my training with the heavy weapons company. … We were out in our final courses, to run the battle courses, the infiltration course and advancing under, right, overhead fire. We had to practice all that and one of the last remaining exercises was to run the infiltration course. That's where you crawl, right. You have to crawl about seventy-five yards, crawl under machine-guns that are firing over your head, and this was on a blistering hot day. You began the course; you went about, I would say, let's see, it was about seventy-five yards long, all told, and I would say ten or fifteen yards out, you had to go through a barbed-wire entanglement, right. They put up barbed wire. So, you had to crawl your way through that. Then, you come out of the barbed wire and you had to crawl … a short distance. Then, you had to un-sling your rifle and fire at a target that was in at the back of the course, one clip, eight rounds, and then, continue crawling. In the meantime, the range officer's sitting in the tower and he sees all these guys, right, proceeding across this course, targeting, and … they have quarter-pound blocks of nitrostarch planted in various spots. So, when you get close enough, but not too close, but close enough, he blows them up. [laughter] My eardrums, I thought he broke my eardrums. I mean, man, the pain was terrific. So, anyway, it's about ninety-five degrees, we're out there in the sun, crawling. Crawl, now, not creep; if they catch you creeping, they stop everything, they pick out the guys who were creeping and they come all the way back and start over. "Snakes crawl, babies creep." [laughter] That was the favorite expression, right, "Snakes crawl, babies creep." They can get up on their hands and knees, right; a baby creeps on his hands and knees. His stomach is not on the ground. Snakes crawl, right. You had to stay right on the ground and crawl your way through the seventy-five yards, filthy, dirty, soaking wet. … You come off the end of the course, you drop into a ditch, which is about eight feet deep. … You just roll over, and then, you walk down toward the end and you finish. Well, there's a bunch of guys in there throwing up, [laughter] crazy, and I thought I was going to throw up for sure, but I didn't. Somehow, I made it, … and just dragged myself across into the assembly point on the side of the course, right, and then, moved back to camp. … Then, of course, the first thing, we got back to the fort, we had a formation and they took attendance, to make sure everybody was with us. … After they took attendance, they called my name out. [laughter] "Break down your equipment, break down your pup tent, pack up. You're going back to camp." "Why, Sarge? What did I do?" [laughter] "Never mind, just do it. [In] five minutes, that," he points to a truck over there, "that truck's leaving in five minutes and you're going to be on it." So, I had to go back, and my buddy was having a fit, because, you know, you teamed up with a buddy and your shelter halves made up the pup tent, right. … My tent pegs and everything, half of them were mine, half of them were his. So, I had to take all my stuff and he was left to fend for himself. So, he was a little bit disappointed that I was leaving, and I didn't know even where I was going, except I got in the truck and they took me back to camp. … I went back with the kitchen personnel, the chief cook, you know, [and his] staff, and I asked them if they knew what was up and they didn't know. They didn't know anything. … I said, "Well, … so, I'm back in camp?" We unloaded this kitchen equipment that we'd brought back with us. "What do I do now?" They said, "Well, check with the orderly room. The company clerks, they'll tell you." So, I popped over there and asked them if they knew anything about my fate and they said, "Yes, you're on a special order. You're shipping out." This was on Monday. "You're shipping out Wednesday to

Stanford University." "Ooh-wee, great." So, on the other hand, well, I had trained with this unit, I knew they were going overseas, so, I wasn't sure whether I wanted to go to Stanford.

SI: At this point, had the war ended?

JS: Yes, the war was over. This was in September, right. The war had just ended. When I started training in April, right, the war was in progress. In May, V-E [Victory in Europe] Day; August, [President] Harry [S. Truman] ordered the use of the [atomic] bomb; the war was over. We thought we were going to Europe, initially. Then, we knew we were going to Japan. Actually, we were training for Operation: OLYMPIC, which was … the invasion of the Japanese mainland, planned for November 1, 1945, but, of course, the bomb, you know, just detoured all that. Anyway, so, I was going back, now, I learned, to Stanford. [laughter] So, I was glad to get in, so [that] I could get over to the bunk, … or to the barracks, and take a shower. So, the next day, I walked out and they said, "Well, wait a minute, you're not going to Stanford. They changed the orders. You're going to West Virginia University in Morgantown, West Virginia, on Friday." So, I hung around and … did KP [kitchen police duty], basically, and turned in all my gear, my rifle and all that kind of stuff, and, Friday, boarded a train, Chesapeake and Ohio [Railway], and made an overnight trip, wound up in [Morgantown], with five other guys that came from different locations, somewhere in the camp. I didn't know any of them, though. We all went, six of us went, together and wound up in Morgantown, West Virginia, on Saturday morning; well, about noontime. So, the first thing, we looked, and you could look up High Street, is the main drag; have you ever been to Morgantown?

SI: No, I have not.

JS: Well, in Morgantown, then, the main drive is High Street, and it went, like, straight up the hill and you could see the university buildings on top of this hill, about a mile or two in the distance from the train station. … I thought, "Well, we'll get something to eat. So, we dropped into a restaurant, … all six of us, with our barracks bags and everything. They found room for us and fed us, and then, we had meal tickets issued by the US Government, right. So, we gave the proprietor our meal tickets to pay for our meals. … You signed the meal ticket and you put the price on it, and he turns it in to the government. He mails it in or he can turn it in at a post office and he gets paid. Well, this guy refused to accept meal tickets. "Uh-oh;" [laughter] so, things are getting a little testy when in walks a local policeman, patrolman, walks in. … The proprietor runs over to him, blah, blah, blah, they're having a conversation, and then, he comes over and talks to us. I said, "No, these are legitimate, right, you know. He can collect his money. The government's not going to cheat him out of his money." So, what he was worried about [was], he goes to his cash register, there's a drawer under his cash register, he opens that drawer and he's got all these meal tickets. [laughter] Apparently, people had arrived, you know, GIs had arrived who were in the ASTP unit at West Virginia University, and had eaten there and handed in these meal tickets and he didn't know what to do with them. I don't know why he didn't know what to do with them, because it tells you right on there what to do. So, the officer, the police officer, assured him that they were good and he would get his money, and he was willing to accept them, [laughter] and so, we called two cabs and zipped [out]. … That was our introduction to Morgantown, West Virginia. [laughter]

SI: Were you told that you were going to be picking up your ASTP training, or was this new, additional training?

JS: Yes, no, this was ASTP training now continuing.

SI: Okay.

JS: Yes. I was getting more engineering, but I didn't know that until I got to the university. I just knew that I was going to go to the university. I wasn't sure what I was going there for, just [that] I was on a special order to be there by such-and-such a time on Saturday. Anyway, it was just a continuation, yes. I spent a quarter at West Virginia University, which was really good duty. I could have stayed there. [laughter] I would have stayed there the rest of my Army career, because we didn't march, we had no sections, we just went to class, like a student. … After meals, in the evening, we could go to the library or any place we wished. … Ten o'clock was lights out, though. You had to be in your dorm room [at] ten o'clock. … We had a good time. We used to have a regimental review every weekend. People would come to see that, the local citizens, and every time … [the] West Virginia football team had a home game, we participated in, you know, some of the festivities, the preliminaries. We would have our review, and then, we'd attract some of the football crowd. So, they'd watch our regimental review. … The entire unit would march through the streets of Morgantown to the stadium, and then, we'd enter the stadium, you know, through the gates, right, with the color guard and all of the trappings, and *The Star-Spangled Banner* and all that, and to cheering crowds. So, then, … we marched in, you know. Well, have you ever watched an Army-Navy game?

SI: Yes.

JS: Like when the [Army] corps comes on the field, and the Navy guys and midshipmen; well, that's basically what we did, and then, … we got into the center of the field and we got seats right on the West Virginia side, on the home side, right on the fifty-yard line. So, we saw the football games and cheered for; … what are they?

SI: The Mountaineers.

JS: The Mountaineers, right. So, that was a good way to see the football games. There wasn't a home game every weekend, but there were a few. I saw a number. I don't remember whether it was three or four games that year, and going through that process.

SI: Had the GIs started coming back at this point, on the GI Bill?

JS: Yes, there were some GIs there, but they had a big ASTP unit, quite a large one. The medical school was there. They had a major class of medical students, Army. Remember, I told you I was going to go into the pre-med [program] and go into medical school? West Virginia University Medical School had a flock of ASTP people in the medical school, yes. They had the biggest contingent there, and there were no [others], like at Princeton, we had Navy personnel, Marine personnel there, and the Navy College Training Program, and we had the School of Military Government and the Midshipmen's School; a lot of military personnel. We were a little,

small unit at Princeton. Here, the Army was a big unit, especially when you included the medical students in the medical school, and there was just a handful of civilians, similar to Princeton, though. Princeton only had a handful of civilians, too, civilian students on the campus. The biggest school was the School of Military Government at Princeton. That was for the training of officers in anticipation of our victory in Japan and/or Europe. So, they were trained, this is 1944, before the end was evident, and the … School of Military Government was in place at Princeton. I don't know how long it had been there, but it had been there for some time before I got there. … They were training these guys, anticipating, right, the fact that they would need them when we finally won, unlike some of the preparations that we have witnessed in recent wars. [laughter]

SI: I had heard that the same idea was behind the engineering program. The engineers were training to go and rebuild Europe and Asia after the war. Were you ever told that?

JS: Well, that's possible [that] that was [the idea], but they never … really mentioned that that was part of our mission, because they finally folded the program. [laughter] I got one more quarter in. So, in, what was it, when we were there? October, November, December; December of 1945, they closed [it]. No, it was even before that. Thanksgiving; it ended the end of November, … because, then, I was … transferred to Camp Crowder, Missouri. They put me in the Signal Corps [laughter] and I had to go through Signal Corps basic training, and then, I was assigned to a Signal Corps school at Camp Crowder. … Then, I made a deal with the Army, because what they did was, there was a big flap, nationwide flap; mothers were threatening to tear Truman limb from limb, [laughter] because … they expected their sons would come home, like, the day after the Germans signed the peace treaty, that their guys would be home. Well, heck no, … right, they had to be there for awhile, and, you know, we had troop strikes in Europe and in Paris, and mothers in the United States had all kinds of organizations lobbying Congress, "Get the guys home. Get the guys home," and it was getting touch-and-go. So, they devised a system whereby you got out on points. So, you got points by serving; you served a month, you got a point; if you served overseas, you got bonus points; if you were in actual combat, you got bonus points, all this. So, I'm sitting here; we got no points for the time I spent in the Enlisted Reserve when I was at Princeton, because, when I was at Princeton, I was only seventeen years [old]. They couldn't send me overseas or into active duty. I was on an inactive duty status, and I didn't get paid. … They weren't counting that as service time. So, right, [laughter] I've been in over a year now, going on two years, and I've got, like, zero points, maybe twelve points, or, no, I didn't even have twelve points. Eight points I had, at that point.

SI: Wow.

JS: Right, and it took, like, thirty points to get discharged. So, now, I'm going to be here forever, because, when I signed up in the Army, I signed up for the duration of the war, plus six months. So, the Army makes us a deal. So, they said, "We're going to make you an instructor and … we're opening a new Eastern Signal Corps School at Fort Monmouth, New Jersey. So, what we'll do is, we're going to discharge you today, at the convenience of the Army, and, as soon as you sign your discharge, we're going to reenlist you [laughter] in the Army, … regular Army of the United States, and then, we're going to give you a thirty-day leave. You go home. Then, you report to Fort Monmouth, New Jersey, and you serve twelve months and you'll be

discharged. Forget about points; you don't have to worry." So, I said, "Well, should I or shouldn't I? You know, am I going to get out sooner the other way?" because I was anxious to get rid of the Army. [laughter] I said, "Well, okay, I'll take the deal." So, that's what I did. So, I actually have two enlistments and two discharges. … I came back and served at Fort Monmouth as an instructor in the Eastern Signal Corps School for twelve months.

SI: How long were you at Camp Crowder?

JS: Just a short period of time. I arrived there in; well, I was there for Christmas. I was there, like, in December, the month of December, and then, I shipped out in January. Mid-January, I left there on my furlough, my thirty-day furlough, and then, I came back and I went to Fort Monmouth, as an instructor.

SI: Going back, does anything stand out about V-E Day or V-J Day?

JS: No, very little, actually. … V-E Day, we heard [about while] we were out in the field, and they assembled us. We wondered what they assembled us [for]. [laughter] So, we were out in bivouac, out on maneuvers, like, you know, field training, and they called us all, got us up into this big field. Of course, we didn't know [what was going on]. When you got in the Army and you were out there, you didn't hear a radio, you didn't see any newspapers, you know. We didn't know anything [about] what's going on, really, and we'd been out there for about a week. … They told us the Germans had surrendered. Some colonel got up there and told us that the European conflict was over, and that was it. [laughter] We went back to work, and then, V-J Day, that was in August of 1945. What was I doing on V-J Day? I don't even remember what I was doing. Let's see, that was in 1945; was in the infantry, yes, I was in the infantry yet. I was still in the infantry. That was August the 6th, right? Well, the Japanese, I think they surrendered on the 8th of August; when [had] they dropped the first bombs?

SI: I should know this cold, but it was August 12th, I believe. [Editor's Note: The Japanese surrendered on the afternoon of August 15, 1945, in Japan, August 14th in the United States. The formal surrender took place on September 2, 1945, aboard the USS *Missouri* in Tokyo Bay.]

JS: … Yes, right.

SI: I think the first bomb was dropped on August 8th.

JS: The first bomb was on the 6th, I'm pretty sure. [Editor's Note: The first atomic bomb, "Little Boy," was dropped over Hiroshima on August 6, 1945.]

SI: Yes.

JS: And then, I think the second bomb may have been on the 8th, but it was about the 12th, yes. So, then, … where was I? [Editor's Note: The second atomic bomb, "Fat Man," was dropped over Nagasaki on August 9, 1945.] No, I was still in the infantry, right, only I don't know where I was on that day. … They just announced the Japanese had surrendered … and we just went

about our business. [laughter] … We didn't have any celebrations, or there was no loud cheers or anything, actually. I was surprised. You would have thought there would be.

SI: Yes. That must have been a load off your mind, that you were not going to be in combat.

JS: Yes, but, as I recall it, I mean, no big fuss was made. … Of course, we were out in the field. Maybe back on camp, things … ran differently, but not very many people said anything, on V-E Day. I was really surprised that, you know, there wasn't more excitement amongst the troops, you know, but there wasn't, no. … I have a clear recollection of V-E Day and being told by the colonel that the Germans had surrendered, but V-J Day, I just can't [remember]. I don't know what I was doing.

SI: When you were at Fort Monmouth, what would you do in a typical day?

JS: Well, I'd assemble class. … The way they ran this school, I was in a sub-course that trained powermen. The Signal Corps has power units, electrical alternators, generators, to supply power, for communications and … lighting and other things. That was the Signal Corps' job, right, and Fort Monmouth is the home of the Signal Corps, marvelous facility. We lived in a beautiful brick building. Oh, it was great service, [laughter] loved it, and we had no KP or any of that nonsense. We had German war prisoners who cleaned the barracks and prepared all the food, served all the food, under the supervision of, you know, US Army personnel, and it was easy. All we did was go to school and teach and come back. … I was, like, the administrative teacher in this course for training powermen, … a thirteen-week course, which got you an MOS of 116, powerman. I think it was 116, or 109 or 116, [166?]. It's not important what the number was, but … we would have cycles. They would send the troops through in groups and I would enroll them and they got their enrollment cards. … Then, they would be assembled in a classroom, which was just chairs, you know, with the arms and the desk, where they sat and read their technical manuals until such time as they were to receive a lecture, which either I [or another instructor] gave them, like, on AC [alternating current] and DC [direct current] and Ohm's law and the theory of internal combustion engines, things like that, preliminary to their going to the lab work, which was conducted in a couple of buildings and downstairs, on the ground floor, this was on the second floor, where they disassembled the actual engines and put them back together and operated them and learned how to maintain them, under the tutelage of Army personnel. … Then, when they got near the completion of their course, I would send an availability report in with their names on it, which would go to the Chief Signal Officer in Washington, DC. … Then, they would be assigned to some unit, wherever it might be, anywhere in the world, where a Signal Corps unit needed a powerman, because they were qualified. … I did that for twelve months. That was a snap.

SI: You did not require any additional training or indoctrination into what the Signal Corps does before you became an instructor. How quickly did you pick that up?

JS: Not on my part, no. I didn't have to. No, well, … when I arrived at Camp Crowder, I had to take Signal Corps Service School. At that time, we had Ground Forces, Service Forces and the Air Force, right. The Ground Forces [consisted of the] infantry, cavalry, tanks, and Service Forces [included the] Medical Corps, Signal Corps, Engineers. They had their own little basic

training. I had to take [the] basic training that the Signal Corps [gave]. They were using in there, still, … this is the end of the war, near the end of the war, training men with Springfield [1903] rifles from the First World War. So, I took basic training, repeated what they called this basic training for the Service Forces personnel, using a Springfield rifle, after I just finished firing sharpshooter with an M-1. [laughter] I couldn't believe this. The funny thing was, when I was doing that, while I was in the process of doing that, and swearing up and down, "That stupid Army," right, there arrived a whole shipment of M-1s. [laughter] They were … introducing M-1s into the Signal Corps, into the Service Forces, and we had the job of unpacking them, and they were all packed in Cosmoline. Do you know what Cosmoline is?

SI: The thick grease.

JS: This thick grease, yes. So, we had the job of unpacking these and cleaning all these rifles. Then, we get instruction, right. [laughter] I can take one of those rifles and, right, with my eyes shut, take the bolt out, disassemble it, in eight seconds. I had to watch a second lieutenant instruct me how to disassemble this bolt. It took him ten minutes, with his eyes open, [laughter] to try to figure out how to take this thing apart. [laughter] I thought, "Oh, what am I doing here?" poor guy, but, you know, unless you know how to do it, it's not really that easy. … I, and a few others who came with me, had to sit though that. We just had to live through it, right. [laughter]

SI: In general, during your time in the service, what did you think of the officers you served under? Do you think you were treated well as an enlisted man? There is always that obvious split between officers and enlisted men; sometimes, it can be problematic.

JS: Yes, right. Well, there was some friction, at times, between [us], yes, but, … when I took my infantry training, a lot of our cadre, … well, when I arrived at Princeton, a lot of the cadre there were veterans of the North African Campaign, like this captain I referred to, and other officers that were there were veterans of the North African Campaign. … You know, we sort of respected them for that, and some of them had been wounded and they weren't able to go back into battle and things like that, but they were good and they treated us well. … We got along with them fine, but they were strict disciplinarians. As a matter-of-fact, I got into a little trouble with an officer because he didn't know how wide a sidestep was, and I did, when I got into the infantry. Yes, I had a little [bit of a] tough time with a West Point graduate, teaching us what the width [of a sidestep was]. You know, you had to know, you did an about face just a certain way, you knew what a stride was, how many inches, you knew what a sidestep was, how many inches it was supposed to be, according to the manual. Remember, I mentioned to you, the first thing we got from the Army, when we arrived as students in Princeton, was *FM 22-5*, IDR, *Infantry Drill Regulations*, and we had those practically memorized. We know just how to do every short-order drill maneuver, movement, by the numbers, [laughter] dressing right, dressing left, all [that], everything, about face, backward march, all of that, to perfection, practically. … When I got into the infantry, I found that the officer who was directing us really didn't know some of these things. Now, it's a fine point, so, maybe he called the sidestep, I can't remember what it is, he may have called it sixteen inches, or something, and … it was really twelve, but he had it wrong. [laughter] … No, I don't see any major conflicts, although there were some officers I

distinctly didn't like and there were a number of officers that I thought were incompetent. I was urged to apply for Officer Candidate School, but I never would.

SI: Why was that?

JS: … I wanted to get out of the Army as soon as [possible]. I had enlisted, right, … taken the test, I'd been accepted, I got in. They told me I was going to be called up in September; instead, they send me to this thing in July. I had a preference to go pre-med; they told me, when I got there, [I] wasn't going to go, right, couldn't take pre-med. I had to go in engineering or retire, or quit; not quit, I couldn't resign, or resign, go home until I got called. What else? Anyway, [there were] a couple of other things that I thought, you know, "I don't like these guys. They tell you one thing and they do something else;" told us to bring all those clothes, needlessly. What else did they do? They told us we were going to do this, told us we were going [to do that], and things never came about. So, there was a list of broken promises or tentative promises, but, of course, it's an emergency, right. They had to meet manpower needs, whatever they were. I understand all that, but I was not impressed with the Army or the people who were running it. … I thought certain people got raw deals. Well, I'll tell you, we always think very highly of the Armed Forces and how these people are making such sacrifices. … I went into [the] infantry replacement training center and the rule, operating rule, was, "If your outfit has no AWOLs [absent without leave] thirty consecutive days, you're excused from standing reveille," right. You're excused from reveille until somebody in the outfit goes AWOL. I was on that post for five months plus and I stood reveille every day, which means there was somebody AWOL … from my outfit, my company, every single day I was in that camp. I mean, we had guys going AWOL, and then, of course, it was thirty days, and, if they didn't show up, they were deserters. They picked them up for desertion. So, you know, there's another side to the, what? the patriotism of the average American soldier that has not been entirely [revealed], not that it was anything serious, but one wonders what would have happened if you got into a real tight battle, you know, with these guys, you know, in a fight, in a firefight. What would these guys be doing? Would they be goofing off, or what would they [do]? but we had ways of handling items of discipline. Like, they believed in group punishment, right. So, if somebody in the squad screwed up, the whole squad got the extra drill, right. Well, we landed on the guy who screwed up pretty hard. We used to dry shave guys all the time. That was [the] favorite punishment for guys who got the squad into trouble, for some reason or other, or were out of line, yes. We'd get them in the morning and a bunch of guys [would] hold him down and we dry shaved him with a razor, with a Gillette razor, yes. … Then, of course, the language in the infantry, … you know, you hear [that] when they had *Saving Private Ryan* [(1998)], and what was that other one? *Brothers of* …

SI: *Band of Brothers* [(2001)].

JS: Band of Brothers; people were complaining about the language. [laughter] I mean, they should spend a day in the infantry, or any other Army unit for that matter. I mean, if you spoke half a dozen words without a four-letter word in there, you were ostracized. [laughter] You didn't speak "Army language."

SI: Was there a lot of drinking, smoking and cursing?

JS: No, this was just like, "Goddamn it," and all this, "You stupid mother," and all that kind of stuff, but this was the regular vocabulary throughout the Army. That's the way they spoke to one another. Now, … if someone said that to you, you shouldn't be insulted. [laughter] I mean, you could say the same thing back to him. He wasn't going to do anything. … It's not the same context. Like, if I said something like that to you, right now, after shortly meeting you, [laughter] you'd punch me in the nose or something, right, but, in the Army, we used that language back and forth to our best buddies all the time, but that's the way it was. [laughter] … When I hear about these complaints, about the movies that contain too much profanity, the profanity in *Saving Private Ryan* is, God, there isn't any, as far as I'm concerned. … That was just … an enlightening experience. When guys get together, that's the way they behave. Anyway, … where were we now? I'm finishing up my Army career in Fort Monmouth, New Jersey.

SI: Had you already started making plans for what you were going to do after you got out of the service?

JS: Well, I was wondering, … what was I going to do? So, I thought; oh, yes, here comes up another point, besides not being paid. Every day I spent in the ASTP Program, every day, they deducted from my GI Bill. So, I thought I was going to get a lot more GI Bill time; I was going to get three years of [the] GI Bill. [laughter] No, [it] didn't work. … For every day I was in training, they deducted a day on me. So, anyway, I had considerable time left, because I was in the Army for three years, and I was only actually twelve months in training, right, in the ASTP Program, nine months at Princeton and three months at West Virginia University. So, I still had a lot of GI time, but it was a question of money. So, when I got out in February, I contacted Princeton to see, … "Should I apply for admission to Princeton University?" and they sent me a real nice letter, you know, "You're a Princeton student. [laughter] You're enrolled; you can come back any time you want. Just come down and start. You know, you've got to start at the beginning of the semester, but there's no problem. Any time you want to come back to Princeton University, you can come back." … That was great. So, then, I started investigating what it would cost me to go to Princeton University. … For some strange reason, which, to this day, I cannot understand, I never asked about financial aid. In other words, "Could I get a scholarship to support me at Princeton?" because I couldn't afford it, even on the GI Bill. … It exceeded the tuition allowance and everything else, and the living allowance. I couldn't afford to go to Princeton, even with the GI Bill, support from the GI Bill, because I only got sixty dollars a month to live on. I had to pay all my living expenses, and they only paid tuition up to five hundred dollars. Well, the tuition fee alone at Princeton was 750 [dollars]. So, I thought, "Well, what am I going to do now?" So, I thought, "Well, I'll go back to work." So, I got a job and I started working and saving my money, and then, decided where I wanted to go. So, then, I don't know how I landed on Rutgers, but, somehow, I thought of Rutgers. I don't know how that came about, whether somebody mentioned it to me or whether I just [discovered it]. I knew Rutgers was there, but, so, I thought, "Well, I'll look at Rutgers," and that's how I decided I'd go to Rutgers, because, when I made inquiries at the admissions office, they were accepting [GI Bill rates]. Your tuition was fully paid, whatever the Army was offering, and then, of course, the living thing was a little bit cloudy, because I couldn't live on the campus, and they didn't know what class they were going to put me in and they didn't know how many credits I was going to

be given. I had to submit my Princeton transcripts and my West Virginia transcripts and all that kind of stuff. … I decided, "Yes, I think I'm going to go to Rutgers. That's where I'm going to go." … Actually, I worked until [1948]; I didn't enter there until '48. I was discharged in '47, but I didn't go back in September '47. I went back the following September. Well, I had enough money saved, and, now, I had a nice budget, [which] I worked out, and I was going to be okay.

SI: Where did you work that year?

JS: In that time, I worked in three different jobs during that period. [laughter] My first job … was with Western Electric as a wireman. I worked there one week. They went on strike, but I knew I was never going to return to that job. As a matter-of-fact, I was highly embarrassed, because the supervisor who hired me, he said, "You're not going to stay in this job," he says, "but, if you want me to hire you, I'll hire you anyway," and I said, "No, I'm going to [stay]. You know, I need a job," because I had just gotten out of the Army, and I wasn't going to go on 52/20. A lot of guys were signing up for 52/20, right. You got twenty dollars a week for fifty-two weeks, for a year, and I decided I was not going to do that. I was going to get a job. I was perfectly able-bodied. I could get a job; I was going to work. I wasn't going to lay around and collect twenty dollars a week from the government just because it was available. So, I went right to work, but they went on strike and … I decided, after a week's experience as a wireman, I didn't like that. Now, remember, I had this interest in science and laboratories and things like that, right. So, I picked up the paper and found an opening for a lab assistant at United Piece Dye Works in Lodi, New Jersey. So, I hot-footed it over there for an interview, see if they were going to hire me, and walked in and told them I was applying for this [position]. I was answering this ad to apply for work. … The secretary of the personnel manager told me, "It's taken. Job's taken," but, if I wanted to, I could fill out an application, and, if they had another opening, they'd call me. So, I said, "Well, okay, I'm here, I might as well fill out the application," filled it out and was walking out. Now, I'm in this long building. United Piece Dye Works is the largest piece dye works in the world; this has got hundreds of acres, in Lodi, New Jersey. Now, [I am] in this big building, with this long hallway, it's about a quarter of a mile long, I thought, and I'm walking out. I've got my hand on the doorknob to go outdoors and I hear my name called. I look back over my shoulder and this guy's waving at me, "Come here, come here." So, I turned around and walked back. In the meantime, he went into his office. So, the secretary said, "The personnel director would like to talk to you. Do you have the time?" "Sure, absolutely." So, he says, "I'm looking at your record here," and he says, "I see you attended Princeton University and you took science and engineering, math courses, and how did you make out there? What kind of an academic record did you have?" [I] said, "Well, it was pretty good," [laughter] and so, I told him, good scores and everything. … He said, "Well, there's the possibility that our research department might be in a position to hire somebody. … I'm going to see if … Dr. So-and-So is here. He's the VP for," something or other, "and we'll send you over to him." He packs up my paperwork and he picks up the phone and called. "Yes, he's here." … He's willing to talk to me. I go over to talk to him. We have a little conversation. "What's your background? What courses did you take? What were your grades?" blah, blah, blah. … "Well, our research director has got the possibility of an opening for a research assistant in the research department. Dr. (Eck, Rhinehard Eck?), a German PhD, do you have time to talk to Dr. (Eck?)?" "Absolutely, I've got time to talk to Dr. (Eck?)." So, I had a chat with Dr. (Eck?) and he hired me. So, I started to work the following Monday, as a laboratory assistant in the research

department, and I worked for two textile chemists, one, a fellow named (Jerry?), had a master's degree from Ohio State, and Barbara, had a master's degree from Columbia. … I was their lab assistant, and I stayed there and they paid me twenty-seven dollars and fifty cents a week, and I got two dollars and fifty cents more than a high school graduate. They normally hired a high school graduate for that job, but they paid me two dollars and fifty cents more, and then, they gave me a raise. Shortly after I got there, they gave me a raise to thirty-two dollars, but I knew I could get a job at Federal Telephone and Radio for forty-four dollars a week. So, now, I'm planning to go back to school, right. I'm working on this textile job and I'm talking to Dr. (Eck?), and I'm talking to (Jerry?) and I'm talking to Barbara, I'm talking to the textile chemists in the plant, and I'm getting a lot [of experience]. I know how to finish textiles and everything. Boy, I learned a mountain there, because they were introducing new finishes, Zelan, a water-repellant finish, made by DuPont, and (No Rain?), a water-repellant finish just developed by American Cyanamid. … I got the job of converting … the laboratory stuff into the actual plant process in the plant. I worked with the operators in the plant, actually processing fabrics and applying the finish, which, I thought, you know, was quite a big responsibility. … I worked, like, twelve, fourteen-hour days in that plant, [laughter] but I learned an awful lot about textiles and textile chemistry. … They treated me, you know, fairly well, because they paid me all overtime. … I just submitted the number of hours and they paid me without even questioning it. So, I was making good money, but I could make more money working at Federal Telephone and Radio, and installing television antennas. The way this worked, I took the job at Federal Telephone and Radio in the second shift, starting at four o'clock. In the meantime, I'd get up early in the morning, and [with] a buddy of mine, we'd go out and install television antennas for people who had purchased television sets from the local department store, Lakeviews, in Passaic, New Jersey. So, they'd sell somebody a television set. Well, you had to have an exterior antenna in those days, because of the poor sensitivity. So, everybody had all these television antennas on the roof. … You're too old [young], you probably didn't even see those, but everybody had these television antennas sprouting from their chimneys. Well, I and my buddy used to install those. … They supplied the antenna, all we supplied was the labor to install it, and we got twenty-five bucks, that's twelve-fifty each, for every antenna. Well, if we started early in the morning, we could get maybe two or three, or even four, television antennas installed, depending upon how busy Lakeviews was. Well, you know, twenty-five dollars, if we got three, four, that's seventy-five, half of seventy-five makes [thirty-seven dollars and fifty cents], "Phew." [laughter] I [could] make, in a day, what I make a week at Federal Telephone and Radio. So, then, I just called in sick to FTR, [laughter] and we continued installing … television antennas that day, provided we got at least two in the morning, and then, you know, hoping we'd get two in the afternoon, but, sometimes, we got three in the morning and two in the afternoon, that's five. Five times [twelve-fifty], that's sixty dollars [and] some cents in one day, and I've got to work … a week for forty-four dollars; anyway, but this was only sporadically, you know. They'd announce a big sale, people would come down, they'd buy a lot of television sets that have a lot of television antennas to install. Well, then, the thing would dry up and we'd go by several days and we didn't do anything. So, … I couldn't quit my FTR job. I had to keep that, right. So, I continued working there second shift, and then, I did that until I went back. Let's see, … I worked in the textile lab for a little over a year, and then, I quit. Then, I worked several months at FTR and installing antennas, but I made a bundle of money, and then, I went back to school. … I started at Rutgers as a sophomore in September 1948.

SI: Did you already know what you wanted to study when you entered Rutgers?

JS: No. I applied to Rutgers for admission and, because I had my engineering background, I applied to the School of Engineering. How could they turn down … an engineer trained at Princeton and West Virginia University with my grades? Never; I was sure to get admitted, right, which was true, but I wasn't sure I wanted to be an engineer. What I thought at the time is, "I might want to be a physicist," but, in the meantime, I changed my mind, … right, between the time I filled out the application and was admitted and the time I actually went down there and entered. … After I got there, I immediately changed my major to biology, because I had to start with freshman biology. I wanted to try the biology courses, and they agreed to that. I talked to the people in the Physics Department and [they said], "Well, okay, … you've got to have a major, [laughter] so, it's biology." So, I enrolled in freshman biology and I got all that biology. Now, my thought was that, "If I got a degree in physics, where would I get a job?" … I didn't know that … anybody was hiring physicists, and I figured, "Research in physics is, eh; the future is in biological research, biochemical, biological research, there's the future, genetics." I knew enough about, you know, the general area, and so, "I'll try the biology and see what happens. … If I'm successful in getting a degree, I'll go to work in the research department at one of the big drug companies in North Jersey," of which there were plenty, "and I could get a job any day," right. So, that was my thought. That's what I was going to do and I got into biology. I liked the biology courses, but I really took a lot of chemistry. I took more chemistry than a biology major ever took at Rutgers, [laughter] analytical chemistry, organic chemistry, physical chemistry, and then, I took certain lab courses. [laughter] For instance, I didn't go for conventional biology. I didn't take comparative anatomy and classification, or any of that kind of stuff. I took bacteriology, took a lot of bacteriology, bacteriology of water sewage, methods of bacteriology, biochemistry, physiology, general physiology, genetics, things like that, not anatomy and all those other courses … pre-meds take; didn't take those. … Those laboratory courses in biology kept me busy, and that's where I really got interested, then, in research, because I was assigned; … you had to have a counselor, right, an advisor. A faculty advisor advised every student. They assigned me to, in my junior year, to James W. Green, who was a Professor of Physiology. He was in the Department of Biochemistry and Physiology. That was a separate department then, and I had a class with him and he was my advisor. … I used to come in and he used to ask me, "Well, what are you going to do? What are you planning to do in the future?" and I said, "Well, I haven't really given it any thought. I was going to get a job. … I think I want to do research." "Oh, but you should be thinking of an advanced degree then," and he said, "You've got the grades here." He said, "You could probably go to graduate school," and I said, "Well, I don't know. I'm having a tough enough time just struggling along here," right. He didn't know I was eating on six dollars a week in the Commons. That's what my food budget was, six bucks a week. So, I thought about it, and then, … every time we'd meet, he would mention graduate school, "Have you thought any more about graduate school?" … Of course, it was up to him to see that I'd met all the University requirements, right, I had the two years of social science, the two years of humanities and all that stuff. … I wasn't really interested in humanities, [laughter] but we had some good teachers. I mean, I was impressed with [Professors of Philosophy] Houston Peterson and Mason Gross, terrific. I took courses with those guys and I was very impressed with them. …As for the Biology faculty, I had Thurlow Nelson; have you ever heard that name? Nelson Hall [is named after him], taught general biology. Oh, I was impressed with that man. He was a terrific teacher, and, of course, Professor Green and James B. Allison, have

you ever heard that name? who was the head of Biochemistry and … Physiology at the time. … I took biochemistry with him. He was very good. He was prompting me to go to graduate school also, and who else then? There was an [John Arlington] Anderson in Bacteriology and a [Thomas J.] Murray that I took a course with, and Eugene [R. L.] Gaughran, who taught bacteriology. I took three courses with him, pathogenic bacteriology, bacteriology of water and sewage and laboratory methods in bacteriology, and I thought he was a terrific teacher. … He was an MIT PhD, because that figures in later, [laughter] one of the reasons I went to MIT. So, I start thinking about it and I decided I'd give it a shot. … In the meantime, I had met a girl and we were going together and we got engaged. … I decided I was going to apply to Purdue University, to go to Purdue University, to major in biophysics. They had a brand-new department in biophysics and they had a [professor], I forgot the guy's name, [who] had a big national reputation, was doing some excellent work. Anyway, they offered me an assistantship and I was going to take some summer courses at summer school, under my GI Bill [benefits]. I had just enough left to do two courses. So, I enrolled in statistical methods and plant physiology, but I had to be there, like, June, sort of like two days after Rutgers' graduation. On the 9th of June, Rutgers held its graduation exercises. Well, I decided I was going to get married on the 9th of June. So, I didn't actually go to the graduation exercises. [laughter] I got married on the 9th of June, got on a train, took my new wife to West Lafayette, and we had to find an apartment. … I enrolled in summer school at Purdue University and took two courses that summer. Well, like, halfway through the summer, my wife turns up pregnant. "Uh-oh;" so, I started looking for jobs and trying to figure out what I can do and I couldn't come up with anything. So, we packed up and came back to New Jersey. … That's when I hit those pharmaceutical companies, and I promptly got a job with Schering Corporation in Orange, in the pharmacology department. I went in for an interview and the head of the pharmacology [department] interviewed me, and he chatted [with] me for awhile. … I had filed applications with Roche and Merck, and every pharmaceutical company under the sun, but these were the first ones to respond. My wife is pregnant, we've got to find a place to live, we're staying with her mother; things are not looking too good. [laughter] Anyway, I went to work for Schering. I accepted right away, went to work, walked in there on a Monday and filled out the paperwork at personnel and walked down to the lab. … There's a bunch of female technicians. … The head technician, right, starts giving me orders, what to do, "Weigh these mice. Feed these mice, force-feed these mice. Weigh these guinea pigs." Come back on Tuesday, it's more of the same. So, I said, "Well, what do you technicians do? Don't you do any other laboratory work?" … "Well, every day, the supervisor gives you an assignment you do, right?" I didn't know what, "Administer these compounds intradermally, or intrasubcutaneously, to these mice," or, "Number and weigh these mice," and that's the way it went for the whole week. So, by the end of the week, I said, "I didn't go to school for four years to learn [biology] to come in here and weigh mice. I could pull any high school graduate right off the street and tell him how to weigh a mouse, right. This makes no sense. So, I quit." I told them that Friday I was quitting the next Friday. I apologized to them. I said, "I made a mistake. This is the wrong job. I never should have accepted it. It's nobody's fault." So, I walked. So, the personnel director called me over and went, blah, blah, you know, "Why? What's the problem?" blah, blah, blah, blah, "How about being a salesman?" He said they wanted to retain me as an employee; they'd spent all this money hiring me. So, I said, "No, no, I'm interested in R&D. I think there are R&D positions out there that I might be able to get, but I'm not going back to the pharmacology lab, [laughter] because I think that's a total waste of my time, frankly. It's my fault, you know. I made the wrong decision." So, in the meantime, I

worked until Friday. … I had applied to other companies, and one of the companies I had applied to was a small laboratory called Takamine Laboratories. … This was the grandson of the Japanese chemist who discovered adrenalin, [Jokichi Takamine], and Takamine was his name. … He was producing industrial enzymes in the United States and he had a small plant in Clifton, New Jersey, and I had gone in there and filled out an application and talked with their vice-president for research, a guy named Eric Snyder. Dr. Eric Snyder had worked many years for Rohm and Haas, was trained as an organic chemist in Germany, and he was impressed with me. … He said he was thinking of putting somebody on to do research work. They didn't have any researchers. They had a big staff in the quality control lab and the director of quality control used to work on special projects. He had a master's degree from the University of Washington, and he was wondering where to fit me in. So, he gave me [an interview]; it was the weirdest personnel interview I ever had. I thought I was in school and I was taking an oral exam. [laughter] He asked me … if I knew what an amino acid was, "What was the formula for glycine? What was the formula for glucose? What is an enzyme? What does a protease do? What does an amylase do?" but I knew all the answers. [laughter] So, he was really impressed. So, he had to clear, right, with top management, to hire me. This wasn't in the budget for this year. He was going to let me know, but he hadn't let me know by the time I accepted the Schering offer. Anyway, this Friday, final Friday, I was exiting from Schering, I called him on the phone, and he said, "We'd been meaning to get back to you," but he says, "I know I can get the approval. When can you start work?" I said, "Monday morning," [laughter] and he said, "Okay," and that was it. I started work Monday morning. Now, here's the difference. I walk into Takamine Laboratories, I have a short conversation with Dr. Snyder and he introduced me to Wesley Hartung, their control chemist. … "What are we going to give Jake to do?" "Well, we have a big problem with our thyroid, USP [United States Pharmacopeia] Thyroid preparation. We've got a big mixer with about two thousand pounds of USP Thyroid, but we can't get a decent assay on it. We keep re-assaying it and we keep getting different answers. So, we really don't know what the potency is. So, we don't want to send it to the customer unless we know it's USP Thyroid." So, what they decided to do was to give me the USP manual with the procedures in [it]. I'm going to go out and get my samples from the stuff in the mixer, set up a little experiment, and, you know, perform the procedure myself. … Then, we had a standard USP Thyroid preparation, and then, we purchased others on the market from the drug pharmacies, USP Thyroid, so [that] we know how potent they should be. I ran the whole [experiment], prepared all the reagents, took all the old reagents, discarded them, prepared everything fresh, started out, did the assays, perfect. I did them all in triplicate, no disagreement, no nothing. "But, how could you get such duplicates? [laughter] We never had duplicates like this before, ever. You've got triplicates, and they all agree, right on the button." Good technique, Rutgers University, Dr. William Rieman, quantitative analysis, right; that's who I attribute that to. … From then on, I … formulated, and then, … they had to dilute the stuff in the tank, in the mixer; it was too concentrated. So, I figured out how much they should dilute it. They diluted it, came right on the button, USP Thyroid, when I re-assayed it. … From then on, as long as I was there, for the two years I worked there, I formulated and supervised the production of all their thyroids, [laughter] did the assays, every one of them. They wouldn't let anybody else do it, and then, of course, I had all these little problems that Dr. Snyder would hand me, like doing protease assays. … I developed a unique viscometric assay for proteases that they used in the baking industry, and that was adopted by Nabisco, which was, I must say, a very clever assay. [laughter] Everybody loved it; they used it for years in the food industry. … Then, I worked with Gerber.

… We had to use enzymes to treat the baby food, not because it made the baby food more nutritious, it reduced the viscosity of the baby food, so [that] they could pump it through their pipes and into the bottles, [laughter] and some other projects I worked on, and I had a good time. Dr. Snyder used to give me the problem and just let me go. … I never really, again, I can say, never had a job like that. He'd just tell me, "This is what we want to do. Go ahead and do it." He'd come back to me in a couple weeks, "Are you making any progress on it?" "Well, I'm going to send you a little report." So, I would sort of summarize what he would do. We would chat for awhile. He would call in his secretary, Doris, excellent secretary; never saw a secretary as competent as this person. He would call her in. On the basis of our discussion, he would dictate his report, which was going to go to higher management, with recommendations and everything, and she would go out and type it up. I would proofread it, you know, read it, make sure everything technical was correct, and she'd send it off. … We did several projects like that, worked out marvelously. … Then, Dr. Snyder used to ask me, you know, "Do you plan to stay in research?" He said, "You know, you really should get a graduate degree. You're not going to get any place as a research assistant with a bachelor's degree," and he said, "You really should have gone to graduate school." [laughter] So, here's people directing my life again, right. So, in the meantime, my son was born and he was now a year-and-a-half old when I entered graduate school at MIT. … [To] shorten the story, I actually had several choices. I could have gone to the University of Pennsylvania, but I went back to school [Rutgers University]. I talked to Dr. Green, talked to Dr. Allison. I got advice from them. I talked to Dr. Gaughran, got advice from him; applied to Harvard, Yale, University of Pennsylvania, University of Wisconsin, MIT. Harvard and Yale replied, "We don't support first-year graduate students." I needed support. I couldn't go to school, as I made clear in my letter to the admissions office, "I could not attend unless I got support, scholarships and tuition paid and some kind of an assistantship, because I'm married and I've got a child." At the time, there were very few graduate students who were married with children. They were rare birds, and I was one of them. [laughter] So, anyway, I got encouraging responses from the University of Pennsylvania and from MIT and from the University of Wisconsin. So, [the] first interview I had was with the University of Pennsylvania, which would have been my first choice, because I knew of the work they were doing in biochemistry there and I was very much interested in it. … The guy who was head of the department, whose name slips my memory now; it's my faulty memory again, but I went down, interviewed [with] him and they rolled out the red carpet. He turned me over to another faculty member. He took me through the department, showed me everything, you know, introduced me to graduate students, and I came back and had my exit interview with the head of the department. … I said, "Well, Doctor, how will I choose my major professor? … Who chooses my major professor? or how do I wind up with my major professor?" and he says, "Well, I will assign you to your major professor." I thought, "Uh-oh, I don't like the sound [of that]." I said, "Well, now, how about a doctoral thesis? That's a big undertaking. How do I decide what I'm going to do for a doctoral thesis?" He says, "The professor I assign you to will tell you what you're going to do for a doctoral thesis," and I said, "Oh, well, okay," [laughter] and so, I raced for the exit, thanked everybody for everything, but I knew, at that moment he said that, I was not going to go to the University of Pennsylvania [for] graduate school, because I was going to choose my major professor. I was going to work for the faculty member I thought I wanted to work for and I was going to work on a thesis that I wanted to work on. That's me, right, arrogant little me. [laughter] Anyway, then, I talked to MIT and I talked to a man named Sizer, Irwin Sizer, who was a Rutgers PhD, 1933 or '34 [1935], and he was the executive officer of the biology

department at the time. … They were just opening a new division of biochemistry that September and moving into a brand-new building, … eight-story building. … Then, I had the same conversation, on the phone and through correspondence with him, the same conversation as I had with the chairman of biochemistry at University of Pennsylvania. … He said, "You get to pick the faculty member you want to work for, and you'll work for him provided he has room. … We don't want one faculty member with one graduate student and the other guy with a hundred graduate students, right. So, if he has, in his group, … room for a graduate student, you will work with him. You pick the faculty member you want to work with." … Then, we got to the thesis question. He says, "You can work on any thesis problem you want." That's what he said to me. "This is it. I'm going to MIT. Sign me up," and he did. … Another advantage was, they had student housing there for graduate students, married graduate students, and married graduate students with children, which there were very few of. Most of them were not [parents], didn't have children, but they were married, and so, I could move into an apartment and live right on the campus. … I had a part-time, a half-time, teaching assistantship to support me, and everything worked out fine. … That was a real good experience for me. I enjoyed that very much.

SI: Who did you wind up working under?

JS: … I actually chose Professor Sizer as the major professor, … but the one big disappointment in my life was when I knew what problem [I wanted to tackle]. After I was there a year and I did a seminar; everybody had to do a biology seminar, where you studied a particular problem, right, in your field, and then, presented it to the biology department at the biology seminar. That was faculty and students, graduate students; not undergraduates. … I chose the biological fixation of nitrogen. In other words, how do we get nitrogen out of the air and into protein in the body? … A lot of work had been done at the University of Wisconsin; that was originally why I was interested in Wisconsin, way back. The biological fixation of nitrogen seemed to me a major biological research area. That's why I wanted to work on it. [laughter] I didn't want to do some routine, you know, "You do this, you do that," kind of thing. I wanted to work on my own problem. Anyway, now, they wouldn't let me do it. "Now, what's this? I thought I could work on anything I want." "We do not have a faculty member who would be competent to supervise research in that area, because nobody does anything remotely related to the biological fixation of nitrogen at MIT." [laughter] So, okay, I had to accept that they wouldn't let me do it. So, I went and worked in Dr. Sizer's lab and did a thesis on amino acid oxidation by … liver enzymes, which was nice. It was okay. I had a good time doing that, but I would rather have done the biological fixation of nitrogen, … because I knew exactly what I wanted to do and how I was going to approach it, and, son of a gun, if the same techniques that I was planning to use weren't used by a group at DuPont and they discovered the mechanism of … biological fixation of nitrogen. … I think back, "I could have been the guy that published that, … if MIT hadn't been so stupid as to make me do this [other thesis]," but they were pretty fussy about the graduates who come out of their program and I guess they wanted to make sure that, you know, the thesis was going to be sound and they had somebody who could supervise it properly, because you had to get an outside referee in and everything. That was a big deal, getting a thesis out of MIT, … but I had a lot of freedom. If you look at my transcript at MIT, you'll see I never took a course in biochemistry, and I have a PhD in biochemistry. [laughter] How can that be? Well, they just let you [go]. … They had no course requirements for the major. I had a minor requirement; I had to

take numerous chemistry courses. I had a course in chemical kinetics and chemical spectroscopy and all these fancy courses in chemistry, advanced organic chemistry, chemistry of natural products, but I took a good course in general physiology, in biology and genetics. … All you had to do was pass your written and your comprehensive exam, and then, pass your oral, then, undertake your thesis, and then, pass your oral exam on the thesis and have the referee approve. … They brought in a referee from outside MIT, no MIT connections, no graduates, no alumni, no friends of MIT, [laughter] and they selected a guy at Harvard who was an expert in amino acid oxidation, metabolism of amino acids, sent him a copy of my thesis before I took the exam. … Then, you make your public presentation. That was the good thing about being in the Boston area. You could always [attend lectures]. You could spend time going to seminars and talks by Nobel laureates and thesis exams, and never go to a class and still, … you know, learn a mountain of stuff about modern biological sciences. … So, I went through with that and finished my work. Then, of course, I had the prospects of finding a job. Well, I was thirty-something, thirty-one years old, and I really thought I should go into teaching, but, at that time, … nobody at a university I would consider going to work for, at that point in my career, [laughter] would hire a new PhD. You had to have a couple of years of postdoctoral work.

[TAPE PAUSED]

JS: Where was I?

SI: You were saying that no department you would consider working for would hire a new PhD.

JS: Yes. So, in the meantime, I had been contacted, remember, I worked for Takamine Laboratories, right, in the meantime, they had been purchased by Miles Lab. … Miles Lab decided to expand its research activities, all the activities of the whole enzyme plant, in Clifton, New Jersey. … They built a new research lab and they hired this guy from the University of Iowa, an expert in bacterial fermentation and the production of enzymes, and made him director of research in Clifton, New Jersey. One day, … I was working in my lab and in walks this white-haired, distinguished-looking guy and introduced himself, (Lee Undercoffler?), and I recognized the name. I know he did his work at the University of Iowa. I said, "What is this guy talking to me for?" and he says, "You know, I'm the new director of research down at Takamine Laboratories, which, I presume you know, they'd been acquired by Miles Labs, and we're trying to get a staff together." [He] said, "Do you think you'd be interested in coming to work for us again, after you get your degree?" and I said, "Well, yes, I'd consider it, sure." [laughter] So, we sort of left it at that; I would consider it. … Then, he called me a couple of times and he visited the campus. He visited his consultants at MIT. They hired some consultants there and he'd stop in and see me every time he came up. … He was looking for somebody to do basic research in enzymology, and that was my field. I mean, that's what I was working on, enzymes that metabolized amino acids. … I had some other interviews, like with Pfizer and Merck, you know, but I thought, "Gee, maybe I'll try this," and so, I went back to work. So, that's what I decided to do, rather than [teach]. I could have had some jobs teaching at, you know, XYZ Podunk University, but I thought, "No, I'll go back to [Miles Labs]. I'm sort of an applied researcher anyway. I like applied research," and went back there and that worked out very well. … Then, Miles headquarters, in Elkhart, Indiana, decided they were going to consolidate research in Elkhart, Indiana, and everybody was going to move. I got my degree in '58. I worked from '58

to '61 in Clifton, Takamine, [at] ex-Takamine Labs, now Miles Chemical Company, and they decided they were going to relocate the labs to Elkhart, Indiana. … They flew me and my wife out there, in the company plane, and wined and dined us for three or four days there one week, but, … somehow, I didn't like Elkhart; I'm sorry. [laughter] I just didn't think I wanted to move to Elkhart, but … I hadn't really made up my mind yet, and I get a phone call. … When I was working at Miles, they'd hired a research assistant who worked for me. He left to go to work in a similar job that paid a lot more money, for RCA, down in Central New Jersey, and he lived in an apartment house with somebody who worked for Ortho Pharmaceutical Company, which was a part of Johnson & Johnson. … He heard from a neighbor, "You know, we're hiring. We're forming a new biochemistry group at Ortho Pharmaceutical and they're looking for PhDs." … He knew, right, that this guy had worked with a PhD in Clifton, and he said, "Do you think that guy would be interested? Maybe he should come down for an interview." So, he, this friend of mine, calls me up and he said, "I was just talking to this guy," named (Stan Morganstern?), "just talking to Stan (Morganstern?), my neighbor," blah, blah, blah, blah, and he said, "Well, if you could, [consider applying to Ortho Pharmaceutical]." So, I thought, "Hey, maybe I ought to pursue this." [laughter] So, I got the division director's name, (John Inman?), a PhD from Harvard, who was in charge of the division, and I … explained to him how I got the message. … I told him they were relocating the lab and I thought, … you know, I might prefer to stay in New Jersey. "Would you be interested in receiving an application?" and he said, "Oh, yes, by all means, please, send me one." [laughter] So, I sat down and sent him one, and then, he called me up and he said, "Come down for an interview." So, I went down for an interview, "Hey, you got a job." So, I gave notice to … the good people at [Miles Labs]. As a matter-of-fact, I gave them three months' notice. … They were very good to me at Miles and I liked them. I liked the group. I just didn't like the idea of moving to Elkhart, Indiana, and so, then, I left and I started at Ortho Pharmaceutical, in the division of biochemistry, presumably [laughter] to study the biochemistry of reproduction, which was really exciting, but, after a year there, the division director decided to leave and they revised the whole program. I wound up in another division, in the diagnostics division, as a biochemist and making diagnostic reagents and biological products, like human serum albumin and gamma globulin and in vitro tests for pregnancy and things like that, which was interesting work, yes. … I was a little disappointed, but I had to try and stay. I'd just purchased a new house and all, you know, and my second son had just been born, and, holy smokes, [to] go looking for a job again [was impractical]. [laughter] So, I said, "Okay, I'll stay on," which I'm glad I did, because I really enjoyed my work with Johnson & Johnson. There may have been some differences about how they handled personnel and things of that [sort], [laughter] but they were great for doing research. I mean, I had equipment I could buy and, you know, instrumentation, and they let the senior scientists, in their research and development division, just run projects by themselves. I mean, man, I just had freedom. Of course, I introduced products that made a hell of a lot of money for Johnson & Johnson. That was no doubt, you know, in reality. [laughter] So, they weren't doing me any favors, but they had very advanced, very advanced, personnel policies and education, and they'd train you for management. God, I was always in the American Management Association courses, and this, that and another thing. Now, they got, right, as you moved up the line, you … went into a higher and higher grade, … a little fussier and fussier. Then, you had to take an intelligence test and you had to take some psychological tests and you had to have an interview with … a clinical psychologist. [laughter] … If he gave you the okay, then, they would … promote you to the next grade. I surpassed all those hurdles and, eventually, wound up as director of applied sciences at

Ortho in Raritan, New Jersey. I had about thirty-five people working for me. They were all [well-educated]. Well, you couldn't get in without a bachelor's degree, and many of them had master's and I had several PhDs and a couple of PhD/MDs, and that was a real good experience. I did a lot of traveling. I went to Europe, Stockholm, Sweden, England, Italy, traveling, and went to scientific meetings all over the United States, Mexico City, Venezuela. Part of that resulted from the fact that I got along very well with the president of the company. … Unfortunately, he was killed in an airplane accident on a flight from Greece to Rome. A TWA flight, with him and his wife on it, went down in the Mediterranean Sea somewhere. They never did find them, and they brought in a new guy, which was bad news for me, [laughter] because I didn't agree with this guy at all. … Anyway, he went to reorganize the whole research division and … the VP for research, at the time, was a good friend of mine. I had been working with him for sixteen years, right. He was a real buddy. He was a Rutgers graduate, by the way, PhD, by the name of William Pollack. … He was VP for research, and so, I was right under him, right. I was director of applied sciences, but I reported to him. So, this guy wanted to split that up and he wanted to bring in a new VP, and applied sciences would report to the new VP. … This notice came down and I heard this word from my boss. I said, "What do you mean, a new VP?" I said, "Why ain't I that new VP? [laughter] I've been here for sixteen years; they're not going to promote me after all the contributions I'd made to this company? … Yes, I want to talk to the president." [laughter] So, I got an interview with the president and we sat down and I laid my cards on the table. I said, "You know, I've got sixteen years seniority here and look at my performance record." I said, "You go ahead, read my performance reports. Why am I not getting that job?" He said, "Well, we think we want to bring in some new blood," blah, blah, blah. "You are a candidate. You're on the short list. We're going to consider you. Don't worry about it," he said. So, time went by, months and months went by, and they still hadn't appointed anybody. … Things are getting chaotic, because there's no direction. This guy, right, my boss, whose my boss, knows he's going to lose the authority over this group. He's going to go with the basic group. They're going to get a new VP in there, because he didn't get along with the president, either. I think that was part of the reason he wanted [a new vice-president]. He wanted to bring his own man in, right, in the research department. So, they finally appointed some guy, a physical chemist, who came in. So, my advisors, my confidential advisors, [laughter] said, "Why don't you stay? Stay for a year, get along with this guy. You can, you know," but … it didn't work out, didn't work out at all. This guy, … I thought he was incompetent and I had … many arguments with him. … Finally, we sat down one day and I said, "Look, make me an offer. Give me a decent severance and I'll resign. I'm going to leave." Then, he said, "Okay," and he did, and I left. Now, I decide, "What am I going to do?"

SI: Can you tell me about some of the products you helped introduce?

JS: An example was RhoGAM, Rh Immune Globulin, and I worked on a pregnancy test, an in vitro pregnancy test. Remember, they used to have to use guinea pigs or frogs, right. Well, we eliminated that, and it involved, we have what they call a latex-type test for pregnancy. You tested for chorionic gonadotropin hormone in the urine of the woman, and you could pick up pregnancy practically overnight. I worked on that one. About RhoGAM, it's an immune globulin that; have you ever heard of "blue babies disease?"

SI: Yes.

JS: Right, Rh, right, Rh incompatibility, right, when an Rh male is married to an Rh negative woman, right. Well, we produced the, we called it a "vaccine," but it's not really a vaccine, it's a fraction of gamma globulin that contains an antibody to the Rh antigen, [with] which you can tie up the Rh antigenic sites on the red blood and red blood cells of the fetus, which the fetus has inherited from his father. Now, if one of his corpuscles, or some of his blood corpuscles, escapes through the placenta into the woman's circulation, his mother's circulation, she will produce antibodies … to the Rh antigen on those cells. Follow that? Okay, now, the next baby she has, if he's Rh positive, her body … will be stimulated to produce antibodies to the Rh antigen in the baby's blood cells. … This reaction leads to … the baby's suffering from hemolytic disease of the newborn and may undergo an exchange transfusion, … if it survives, the child may be born severely mentally retarded and all that kind of stuff. So, we were going to produce this purified form of anti-Rh antibody from donors who were immunized to the Rh antigen, which we obtained through blood banks, and we paid them for their blood, and purified this antibody. … Then, we injected it into the mother before she delivered the baby, because that's when … all the blood cells get mixed up, right, and the placenta becomes porous and blood cells go through the placenta and when she becomes immunized. So, [if] we give her a high enough dose of this antibody, it will neutralize those antigen sites before her white cells are instructed by the presence of the antigen to make antibodies to it, right. So, we're protecting her from … becoming immunized, and so, she subverts the whole process. She doesn't give rise to this with subsequent children. Remember, the first child is never affected, because she isn't producing antibodies at the time she delivers the first child, but the second or third [can be affected], like my sister-in-law; my brother was Rh positive, married an Rh negative woman. The first child, no problems, but his two sons were affected. … They're affected and suffered their Rh hemolytic disease of the newborn before [RhoGAM was released], right. I know my sister-in-law was concerned during her pregnancies. She used to ask me, "When can I get this? When are they going to start selling this?" blah, blah, blah, blah, blah. [laughter] I said, "No, you'll have to wait. You have to wait. We're in clinical trials." … Eventually, after FDA approval, the product was marketed. It works fine. You don't hear about blue babies anymore. So, there was … a lot of satisfaction in that kind of work. I enjoyed that much more than working on Gerber food and, right, bakery products, Nabisco, and things that, while it's chemical, all that was perfectly good technical work, with applied biochemistry. … Another example is work on a uterine cancer test, with an investigator, a professor at Johns Hopkins [University], to detect cervical cancer, which we had to pass through the Food and Drug Administration; took me eight years to get them to okay that, and then, Ortho decided they couldn't market it. … Then, I developed the production of human albumin from surplus blood bank blood. … Blood's only good for a certain number of days. Then, they separate the cells from the blood, the plasma, in the plasma is albumin, and they use albumin in surgical procedures after purification. I worked out a method of purifying human albumin and we got a license to produce that, and what else? sickle-cell anemia, did some sickle-cell anemia work. … What else did we work on? well, other enzyme tests, for diagnosis of disease, lactic acid dehydrogenase [or LDH] and the transaminases. Actually, I have patents on those, patented methods for determining … the presence of those enzymes in blood serum, used as a diagnostic test. The LDH test was used in clinical laboratories all over the country, for many, many years. I have a patent for that assay; oh, I had it. It's long since expired, [laughter] because we did that work back in the early '60s. Yes, I enjoyed my [work there]. I used to love to go to work at Johnson & Johnson, or even here, when I worked [here]. I've always enjoyed

my work, yes, and I took great satisfaction in the kinds of products we were making, and, of course, Johnson & Johnson was terrific. I mean, they knew how to market the products and sell them, and I got involved as, like, the project leader for these various projects I've been mentioning. I got to work with the manufacturing [division], because we had to transfer the lab process into manufacturing. I got to work with purchasing, to purchase raw materials. I got to work with quality control, to develop the necessary quality control procedures for the raw materials and the final product, and then, I got to work with marketing, "What are the advantages of our product over these other guys?" … I also got to participate in training salesmen to sell the products. Johnson & Johnson trains its sales [staff], in that, [at least], the Ortho Division; I don't know about the others. Maybe they did or maybe they didn't, but we trained salesmen. Salesmen would come in. They'd hire new salesmen, say, for twelve months or so, or six months, and then, they'd bring them all into the plant, maybe twelve, fifteen of them, and we'd give them a series of lectures … and actually have them do laboratory work, use the tests that they were going to sell to the clinical laboratories and to physicians, … so that they would know the scientific basis of their product. You know, they'd know why it worked. They just weren't selling a product with a bunch of advertising from the sales department. So, they had to understand how the product worked and what they could do to help the technician who was using it in the laboratory, or the physician who was administering it, like the RhoGAM, Rh Immune Globulin. That's an intramuscular injection, parenteral, that the physician injects into the woman's muscle, just like a vaccine that you would get. That's the way they administer it, and that was a good time. I used to go to all the national sales meetings [laughter] and mingle with the salesmen. So, I learned a little bit about marketing and sales, and then, of course, one of the first things we had to do was estimate what it was going to cost us to produce this. … "Is this going to cost us a million dollars to produce one dose of rhogam immunoglobulin?" [laughter] I hope not. So, I had to work with the accountants and the financial people. … Then, I got involved; Johnson & Johnson's always acquiring companies. That's the way Johnson & Johnson's grown to be the size it is. It acquires companies, doesn't develop them internally. So, I got involved when the development group in New Brunswick would make contact with what they thought might be a suitable acquisition. They'd get a team together from the appropriate member of the Johnson & Johnson Family of Companies, and I was the technical guy from Ortho Diagnostics, and they were acquiring a lot of companies, trying to get into laboratory instrumentation and laboratory testing, at that time. … I was there at the right time. So, I used to be part of a team, a legal guy, a marketing guy and a technical guy. I was the technical guy, and, like, we would visit these small companies and talk to the owners, who were looking to sell, make evaluations of whether it was worth Johnson & Johnson's trouble to buy these companies or not. So, I got [into] that, sort of, mergers and acquisition kind of thing, activity, working with the legal people and the marketing people. … I used to be able to get along well with the marketing people. They used to love to have me come to their sales meetings, or join them on trips here and there, so that they would have technical back up, somebody to advise them from the technical standpoint. … I got to go England a couple of times, and to Sweden, places like that. We were thinking of acquiring a Swedish company, at one point, and so, that was a good experience.

SI: At that point in your career, how much time were you spending in the lab as opposed to being involved in the development process?

JS: Well, at that point, no more time in a lab. [laughter] I gave up time in the lab when they appointed me … a division director, division of biochemistry, and I just didn't do any more lab work after that. I just supervised people in the lab, and made plans and projections and handled the liaison … with the rest of the company. Anyway, I ran into trouble and, consequently, left in October of … '78. … When I decided I was going to leave, I started interviewing, and I had some pretty good interviews with Becton, Dickinson, and who's that company in Florida? and Abbott Labs in Chicago. … Then, I got to thinking, "Why am I doing this? I don't want to get involved in one of these big companies again, with all this bureaucracy and these guys revising this or redoing that or another thing. I'm going to go for a small company. I can get more business experience that way." So, again, I was talking to one of my staff members, who worked for me, and he mentioned he had been to this blood bank meeting and he had met this guy from Houston by the name of David Hatcher, who was the president of Gamma Biologicals. … They actually manufactured some products that were competitive with the many products we manufactured. He said, "You know, if you'd really like to get into a small company, you might want to give Dave a call. … I think he's looking to add someone to his staff." So, I picked up the phone and called him, and I chatted with him on the phone for awhile. He says, "Hey," he says, "that sounds pretty good. Why don't you come down and visit me?" So, I did and got a job, and he made me director of new product development, and then, I started to work in this small company in Houston, Texas, Gamma Biologicals, had about seventy employees, or something like that. They were doing about four million dollars a year and things were going great guns. … I made some real good progress, introduced some new products that I had previous experience with at Johnson & Johnson.

SI: Johnson & Johnson maintained pretty tight control over what you could talk about after you left the company, correct?

JS: Yes, oh, yes, yes. I had big conversations with their legal staff about where I could go to work. They gave me a list of companies that [they] told me I couldn't go to work for, and I said, "Okay, forget it." I went and hired a lawyer and got a lawyer's opinion. "No, they can't stop you from going to work, but, if you reveal any information, right, then, they could sue you, but they can't prevent you from taking a job. You take a job with whoever you want; forget what that lawyer told you. Tear up the list, throw it away, [laughter] doesn't mean anything." So, that's basically what I did. Now, I came here, and I had mentioned this to Hatcher, when I'd first talked with him. I said, "I'm letting you know, we can't get into the production of Rh immunoglobulin or human albumin. I'm coming here for new products. It's going to be new products. It's not going to be anything that I worked [on] back at Johnson & Johnson." So, he said, "Okay, I understand completely. You don't have to worry," and he never asked me to do anything like that, ever. Anyway, when I arrived here, he got a letter. [laughter] He got a letter, … I was carbon-copied on it, that I had signed a confidentiality agreement [that] provided I was not supposed to divulge anything, blah, blah, blah, blah, and they wanted to be sure that I lived up [to it]. They were informing him [that] they wanted to see that I lived up [to it], as if they had to, which was highly insulting to me. In the first place, he never asked me to do anything and, second, I never would volunteer to do anything. So, that just made me more ticked off at Johnson & Johnson. Anyway, … I got along very well with David Hatcher. He was great at organizing. He organized his company and built it, tremendous job. The only problem was, he didn't know how to manage a company. [laughter] … We were very successful. We introduced

some new products, pregnancy tests and things. Things were going good. In 1980, … (I joined him in '78, 1978), we went public and we were listed on the NASDAQ [Stock Market]. In 1983, we had a secondary offering. We got four hundred thousand dollars [for] the first public offering we had, and then, we got probably about a million-and-a-half in the second. … I have a souvenir from the first public offering.

[TAPE PAUSED]

JS: In the course of going public, I got to deal with investment bankers, and, you know, all that sort of thing, and financials and, yes, when we took the company public, Gamma Biologicals, Houston, Texas.

SI: This is a mini prospectus …

JS: For the offering, yes, right.

SI: In a Lucite block.

JS: Right.

SI: Wow, that is neat.

JS: So, anyway, we got the company up to about twenty million dollars in sales by 1985. They started to introduce monoclonal antibodies. Have you heard that word, monoclonal antibodies?

SI: No.

JS: Well, those are special kinds of antibodies, that possess a very precisely defined specificity, and you can produce them by a variety of methods and not have to rely on human donors. … Most of the antibodies are used in therapeutic work in the human field. Animals can't be used as a source, because they'd be antigenic when you inject them into the human. … One way or another, they purify them from human plasma. That's tough work. Now, we could make, like, all the blood grouping and blood typing serums that you get to type your blood. You usually just think of A and B, right, and Rh positive or negative, but there are, maybe, fourteen or fifteen other antigens that are tested for. … Gamma Biologicals used to manufacture the antiserums, to test the blood, red cells, with. … We used to get those from donors who had been accidentally immunized for some reason. During a surgical procedure or whatever, they became immunized to that human antigen, and then, we had antibodies and we could use them to test the cells; these products are regulated by the Food and Drug Administration. God, it's the most tightly regulated industry in the country. [laughter] You can't even produce anything in the factory until they inspect it. You have to build a factory, equip it, train the personnel, and then, convince the Food and Drug Administration you are able to produce the product. Now, you can begin producing the product; horrendously expensive. How David Hatcher ever managed to do all this on his own always amazed me, but he did. Anyway, we went public and we were going great guns, but, as I said, David didn't really know how to manage a company and he decided he was going to instrument the blood bank laboratory. Nobody had, right; they'd instrumented chemistry and

histology and everything else. They had all these fancy instruments. He was going to automate blood grouping and typing, and he went out and contracted with some engineers and everything to design some machines. … After our second offering, we had about thirteen million dollars in the bank and he blew it all, got us into trouble and, it turns out, he had to sell the company. … Before that, before the actual sale came about, I'd left. In 1988, I decided I would start my own little consulting business here in Houston, in biotechnology. In the meantime, I'd come up with a number of useful products, and we introduced the first monoclonal antibody licensed by the Food and Drug Administration for routine typing and grouping in the blood bank laboratory, monoclonal anti-M, which is another antigen that you'd never hear of. It's not as important as A and B, but it's important. [laughter] … That was the first monoclonal antibody used in the United States for routine grouping and typing of serums in blood banks. Yes, that was a big product for us, and I developed that. So, I did some good lab work and I didn't have a big staff. I only had, like, two or three assistants, but we turned out a lot of good work, a lot of good products, and boosted the sales tremendously. Again, I had an opportunity to interface with the sales group and, eventually, well, I was only here a year when he made me VP for research and development, and then, I became executive vice-president and I was elected to the board of directors. So, I was on the board and was executive vice-president. … I ran manufacturing, marketing, quality control, research and development, customer service; the only thing I didn't control was finance. … That was the trouble. [laughter] He controlled finance, finance and accounting and personnel, but I ran the rest of the company, but, eventually, it got to the point where … it was clear that we were not making it financially. He'd blew all that money, and so, he decided he was going to sell the company. … He made an attempt, and it wasn't very successful, but, then, I decided, "I'm leaving. I can't stay," because we had layoffs and all kinds of things to save money, which was very distasteful, you know. Because I was in charge of all these units, I [had to] lay off all these people, which I didn't like one whit. I thought, … "I can't fool around. This guy's nice. I love him. We were good buddies, you know, got along well, but I just … can't work for him anymore. [laughter] I've got to get out of here." So, I started my own little business and … my first client was Gamma Biologicals. [laughter] They hired me as a consultant, and I had a two-year contract, immediately, and then, I got a few other contracts, with biotechnology companies in College Station, Texas, and some work in Dallas and, up in Conroe, Texas. … That CEO at Amtech Diagnostics International eventually convinced me to come to work for them, to forget about my consulting business, which, unfortunately, was the wrong decision, actually. … As a consultant, I had to spend most of the time marketing. I was doing so much marketing, trying to convince people to hire me, [laughter] right, I wasn't really doing any significant technical stuff. … It wasn't what I thought it would be, actually. It's like the Schering job, right. [laughter] … So, it didn't take much to convince me to come up and join him at Amtech. He hired me as director of research, but he was probably a worse manager than David Hatcher. [laughter] … So, I got involved in a lot of the financial aspects of managing that company and I wasn't doing research any more. He had three financial backers who decided they weren't going to back him anymore. So, he didn't have any funds to really support the company, and we consulted venture capitalists and banks and angels [investors] and tried to borrow money and everything, but we weren't successful. So, he decided to sell the company. … He sold the company to Murex Laboratories in Atlanta, Georgia, and they promptly decided they were going to do away with the Texas location. … They wanted me to move to Nova Scotia (they had a plant in Nova Scotia) and I said, "No, no thanks." [laughter] I was sixty-six years old at the time, [so, I decided], "I'm going to retire." So, I retired.

SI: That was …

JS: In January 1993. … I did some tutoring for awhile, as a volunteer, … with the Houston Public Library, and then, I latched on to SCORE [Service Corps of Retired Executives] and I joined SCORE in 1993, and I've been working as a volunteer with SCORE ever since.

SI: You told me off the tape, but could you tell me again about your recent work with SCORE?

JS: Yes. Well, SCORE's objective is to try to provide advice to people who want to start a business, how to go about doing it, what you have to do, what kind of permits you have to get, what's the good approach. … We hold a little seminar, it's an all-day affair, where we make a series of presentations to the people who attend on how to start a business. … You have to maybe get a license, or whatever you have to do; depends upon what business you're in. So, the counselor counsels you. He tells you what to do, where to go, who to contact, what you have to fill out. He urges you to prepare a written business plan, which has financial projections in it, and then, we read that and make suggestions. … SCORE is supported by the Small Business Administration. … We don't get involved in the day-to-day activities of the Small Business Administration, but the Small Business Administration does provide financial support for SCORE, because we have offices, we have phone bills, light bills, right, and all that sort of thing, although the volunteers don't get paid anything. We don't get any personal compensation, but we have to work out of some kind of a facility, which has to have a light, right, and a carpet on the floor and a telephone, and so, the SBA picks up those expenses. Now, we do also get donations from people, others, like corporations, sometimes, make contributions, and we produce educational literature. We hold workshops, sponsored by banks, and things like that, and we try to work closely with banks who are going to make loans to entrepreneurs who want to start a business. So, we help them prepare the business plan that we know will be acceptable to the bank, but we can't get involved in writing a business plan. I mean, the entrepreneur has to do that, and then, we just edit it, right, and then, make suggestions, that maybe he needs some further instruction in marketing, so, he should take our marketing workshop, or maybe he needs a human resources workshop or maybe some financial management workshop. … I give the financial management workshops. How did I ever wind up telling people how to run their businesses from a financial standpoint? [laughter] [I] don't know how I got here, but, strangely enough, most of the small business firms I worked with, and I include Gamma Biologicals, Amtech Diagnostics, Murex in Atlanta, the outfit I consulted for in College Station, and others, … in Dallas, small companies I worked for don't know the simplest thing about financially managing a company. They think all you have to do is produce a product, or obtain a product from somewhere, and then, generate a killer marketing plan and it's all set. Well, no, you've got to manage your cash and financial matters, and it's a big problem. Gamma got into trouble for that, Amtech got into trouble, the guys in College Station went out of business because of that, guys in Dallas went out of business because of that. They get into trouble because they don't know how to manage cash flow; it's sort of an oversimplification, but they really don't know how to manage finances. … That's what I found to be true. They had marketable products. Gamma, … they were producing products for twenty years, for heaven's sake. They had a sales force that was well-trained; they could sell that kind of product. It's not a very competitive field, biological products. There are only about six companies in the United States. So, you know, it's not

manufacturing, it's not sales, it's not marketing; it's financial management. The financial affairs of the company are what gets them, does them in, and subsequent studies by Dunn & Bradstreet [Corporation] show that many of the failures, well, yes, you can say most, most of the failures of small businesses are due to poor management, and most of that is financial management. It's not the fact that the guy can't sell shoes. He knows who to order the shoes from, he knows what price to sell them at, but he doesn't know how to control his cash flow. He gets too much inventory, he sells stuff, he doesn't collect his accounts receivable, right. We have a guy come in, he wants to borrow money from the bank; they won't lend him money from the bank. … They send him to SCORE, "Get SCORE counseling." He runs a very profitable diesel repair business on Galveston Island, little guy, he's got one partner. … He goes to the bank for a hundred-thousand-dollar loan. They won't give it to him. Why? He's got eighty thousand dollars in receivables. [laughter] The people he's been doing his work for owe him eighty thousand dollars. He goes to the bank and wants to borrow a hundred [thousand dollars]. You think the bank's going to loan him a hundred thousand when he's got all these customers who owe him eighty thousand? Why do they owe him eighty thousand? He makes no attempt to collect it. … He doesn't know how to run his business. "Oh, well, they're good for it. They're my friends, I know them. They'll pay me." "Yes, but, in the meantime, you've got to pay [expenses]. Why do you have to borrow a hundred thousand dollars?" "Well, I've got to pay the rent, I've got to pay the lease, I've got to pay the light bill, got to pay for supplies." "Yes, right. That's what you're supposed to be doing with that eighty thousand dollars all your customers owe you." So, we try to get him on the straight and narrow. … Of all of the consulting I did for people who are in business, the primary problem is financial management. Now, under that, for instance, comes [a case where] a guy's got a business, he's producing custom-made window fixtures, and he's doing a certain volume of business, but he can't manage to pay his bills. So, you go in and look at his financials and you look at his employment. "You've got too many people on staff. You've got to fire your brother-in-law or, you know, your son-in-law, and your wife and, you know, your sister-in-law. You can't have all these people in this company. You can't support this," but, "Oh, no, I can't fire them." [laughter] "But, you've got too many people for the volume you're doing." Now, he does a good job, right, makes a good product, he's selling it at the right price, but he's got too many people on staff. His payroll is too high. He's got to reduce the payroll, and he can't see that, you know. He can't understand why he has to do that, why he should do that. So, he may or may not. I don't know whether he did it or not. … What they do is, they go out and they start the business and the business gets functioning properly, and then, they have an accountant do all their work. So, they hire a little accounting group and they give [them] the responsibility for preparing the financial statements, quarterly, and then, annually, and doing the tax return, but, when they get the financial statements from the first quarter of the year, then, the fiscal year, they don't know what those statements mean. [laughter] They don't know that if they continue this way, they're going to be out of business, right, and, sometimes, the accountant forgets that little detail. So, I'll ask him, I say, "Well, … when did you meet with your accountant last?" "Well, I don't. I never meet with him. [laughter] I hardly ever meet with him. He just sends me the reports." I said, "Well, you've got … to develop some knowledge of what these financial statements mean … if there's going to be any hope for you to salvage your business, and you've got to take the proper action, when it's called for, from the numbers and the data you see on the financial statements. You cannot neglect them." That's the lesson I have to pass on to them. … In the workshops, I try to tell them how to approach that, and what the significance of these numbers on the balance sheets and the income statements and

the cash flow statements are, and how to generate them themselves, not just depend upon accountants to do that. You can't run a business without understanding some of that. You don't have to become an expert accountant, or you don't have to go out and get a degree in accounting, in order to run a small business, but you have to know what numbers are appropriate on that balance sheet when you get it and which ones are out of line. Accounts receivable may be too high or inventory may be too high, right; you have to be able to make judgments, and these people don't. They haven't learned that. … There's no course they can take, or no reason why they should know. Most of these people who come in, including college graduates, can't seem to grasp that, but most of the people we get in, that I work with over on the east side of Houston, are minorities and they're not really that well-educated, I mean, high school graduates, but they want to start their own landscaping service or their power washing business or their child day care center, you know. … It's not like rocket science, you know. You don't have to have a PhD to produce a productive child day care center, but you do have to know how to manage your money, once you get it up and running. So, basically, that's what I've been doing for the past thirteen years. [laughter]

SI: Let me hit pause for a second.

JS: Sure.

[TAPE PAUSED]

[Editor's Note: Leading into the next response, the interviewer had asked Dr. Struck to think about "moments of discovery" in his career.]

JS: … I was working on an aspect of amino acid metabolism, namely the oxidation of amino acids by the appropriate enzymes, and I had results that were inexplicable in terms of previous research that had been done. I was getting oxidation of amino acids that shouldn't have been oxidized in this system, and I was wondering what was causing it. … I finally decided … I had an enzyme present that was oxidizing glutamic acid. … The literature had indicated that there was only one such enzyme, it was a pyridine nucleotide-dependent enzyme called glutamic acid dehydrogenase, that could affect this reaction, but I was getting oxidation of glutamic acid to the corresponding keto acid in systems that didn't contain any of the coenzyme, which is necessary. So, that means I had an enzyme in there that was oxidizing glutamic acid, … in small amounts, and I couldn't understand why it was doing this, because I wasn't adding any of the coenzyme, … but it was just in minor amounts. I couldn't get, you know, really large amounts. Then, I decided, "Well, maybe there are trace amounts of the coenzyme," because it's in tissues and it's in the liver, right, and so, I supplemented the reaction mixture with known quantities of purified coenzyme and the oxidation took off. It was actually the oxidation of glutamic acid by these oxidizing enzymes in this liver preparation, but … the enzyme that oxidized glutamic acid was not supposed to oxidize any other amino acids, and my preparation was oxidizing amino acids other than glutamic acid, like leucine, valine and other amino acids, that, theoretically, shouldn't have been undergoing oxidation. So, it was stated, stated in biochemistry textbooks, a Nobel Prize winner had published a paper saying that glutamic acid dehydrogenase was a unique enzyme, in that it was strictly specific for glutamic acid; it would not oxidize any other amino acid. … This was pointed out in the conventional biochemistry textbooks and, here, I suspected

I had this enzyme that was probably a glutamic acid dehydrogenase that was oxidizing these other amino acids as well. … I had to go about, right, realizing that, all of a sudden, that that's what was happening. It was due to the non-specificity of the glutamic acid dehydrogenase that was in that preparation that was resulting in the oxidation of these other amino acids, as well as glutamic acid. … I was the only person in the world who knew, [laughter] at that point in time, probably, that, … contrary to everything published in the literature and reported in biochemistry textbooks, … glutamic acid dehydrogenase was non-specific and it could oxidize other amino acids. So, it was possible [that] you could explain the oxidation of other amino acids by the presence of this enzyme, which [is] ubiquitous. It's all over the place. Glutamic acid's a major enzyme in the metabolism of ammonia. So, I realized that. I knew what the story was; now, how do I prove it? [laughter] How do I prove that that's not just an impure preparation? … That was basically a major part of my doctoral thesis, doing all the experimental work that proved that I had glutamic acid dehydrogenase and it was oxidizing these other amino acids, contrary to what the literature said. … To a researcher, that's a great feeling, [laughter] when you realize you have a piece of [new] knowledge. Of course, it didn't mean anything, right. Did I make a million dollars? no. Did I earn as much as Warren Buffet? [laughter] no, but I published a paper on it and it received a lot of attention, and it was subsequently mentioned in biochemical textbooks, that the lack of specificity of glutamic acid was pointed out by Struck and [Irwin] Sizer. As a matter-of-fact, my son grew up to be a biochemist; he taught medical biochemistry at Texas A&M Medical School. His students used to read, this would go back into the '80s, … the textbook and they'd say, his name is Douglas, Douglas Struck, "Professor Struck," … you know, they read about amino acid metabolism and they'd have the glutamic [acid], "Specificity of this enzyme was discussed," blah, blah, blah, blah, blah, and then, they'd cite Struck and Sizer, "is that Struck any relation to you?" [laughter] … He said, "Yes, it's my father." So, the work of my doctoral thesis was useful in correctly educating medical students, [laughter] if, you know, anything, you know. If it's worth anything, that's probably a contribution to the literature. … Another case would be, let's go to industry and application; the big race was, everybody wanted to make monoclonal antibodies, so [that] we could stop bleeding people and harvesting the antibodies from their blood plasma and all that, and all the complications that arise. So, we wanted to get [monoclonal antibodies]. … We used to produce them … in mice and reproduce the antibody with mice hybridoma cells by tissue culture, or actually growing them up in mice by infecting them with this tumor cell, which would grow the tumor, cells of which would produce the antibody. Then, we'd kill the mouse and purify the antibody from the tumors; oh, what a mess. We wanted to grow those cells in tissue culture. So, I had to learn tissue culture and I started growing the cells in tissue culture. Then, I had to start finding materials to start screening, because you have to screen … hundreds of materials. So, I went around the country looking for people who would submit [materials]. I talked to universities, like Harvard and Dartmouth, and other universities, … University of Texas and Texas A&M and University of California. I found a small company in Oregon which was trying to make monoclonal antibodies of a whole variety of sources, and they said they had a monoclonal anti-M antibody, which was of the IgM type, "Did I want to look at it?" So, I got to talking to the guy and he said he'd send me a sample. Then, in later discussions with him, they had offered this to all of our competitors and they turned it down. So, I said, "Well, why am I testing this? They're turning it down. They turned it down; it must be no good. Why am I going to bother?" but I was fooling around in the lab and I did some experiments. … I said, "You know, this antibody is not IgM. They typed this antibody wrong. They classified it as an IgM subtype and it's not an IgM subtype; it's an IgG1

subtype. … Therefore, we're going to do this, that and another thing with it, because it reacts like an IgM, but it's really a sub-1, IgG sub-1 subtype. So, we're going to purify it much more differently. It's going to be handled much more differently. We're going to grow it differently, going to grow the cells differently, and we're going to produce vast quantities of this antibody, and then, we're going to check it out." … So, I did, and, yes, it was an IgG, purified, substantial amounts of it, that we could really study, and it was a subtype-1. So, I called the people in Oregon and I said, "You know, you misclassified this subtype. That's why nobody wanted it. They thought it was an IgM, which they probably wouldn't be able to [use because it] wouldn't be a commercially viable product." They said, "Oh, no, it's an IgM. … Our experts subtyped that. We sent it off to the University of Oregon and the authority at the University of Oregon said it's an IgM." I said, "I'm sorry, but you're wrong. It's not an IgM; it's a sub-1, IgG sub-1." [laughter] So, I said, "I'm going to send you a sample now and you take it to your expert at the University of Oregon and tell him to test this sample and tell me what it is." [It was a] sub-1. [laughter] So, at the moment I knew why they had rejected it and why they decided it was not commercially feasible to produce this antibody for commercial sale. So, we quickly signed an agreement with these guys and we got exclusive use to this monoclonal antibody, and I learned how to produce it in cell culture. … Then, I made enough antibody for the next twenty years, in one little flask. [laughter] … We made one batch of antibody, which we sold for the next five years, from that one cell culture. So, you know, that was a day in the lab, doing the experiments, when the light bulb suddenly went on, "They mistyped this. It can't be. … How could they mistype this? It's so easy to tell the difference," but it wasn't really easy. It was very tricky, because this subtype-1 antibody reacted differently … than you would have expected, based on the known chemical properties of that subtype. It was a little bit tricky. So, I wrote up a little paper and presented it at the national meeting of the American Association of Blood Banks. … I did another experiment on reducing and alkylating antibodies; you reduce them and alkylate them and it promotes their activity. … Gamma was the first to introduce what we call reduced and alkylated antibodies for blood … grouping and typing, and, as a matter-of-fact, I was invited to address the Italian Society of Hematologists at their annual meeting in 1980, I guess it was, 1980. … It was in the early '80s. So, I went over to Italy, got to see Italy, Rome, Venice and all that, gave an address before that [society]. We had a subsidiary company in Italy, managed by an Italian salesperson who got some people together and sold our products in Italy. So, he was glad to see me come over, and he could introduce me to all the pathologists, and said what a great outfit Gamma was and how we produced this reduced and alkylated antibody preparations that were so useful in the blood banks now. Yes, it was very good, very productive work that I did at Gamma.

SI: Not having a scientific background, this question may be way off.

JS: Yes.

SI: Did you or any of your companies do any work on HIV/AIDS, like trying to detect it?

JS: Yes, no, we never got into [that], decided we were not going to go into the HIV/AIDS [research]. We were familiar with HIV/AIDS and all the testing. … Of course, we're in the blood bank business, so, we had to be aware of HIV/AIDS. We were intimately associated with that. All our donors had to be properly screened and all the bloods that we processed in the plant

and in the laboratory had to be, you know, adequately screened, [to] make sure that we weren't exposing anybody to the virus, but we never got into that work, actually the technical work, although … this outfit I mentioned, in College Station, was interested [in it]. They wanted to produce an anti-HIV material that they'd found in human plasma. … They hired me as a consultant and they wanted Gamma to process the blood, down here, to do that. … They set up a lab and they hired a lot of people and they spent a lot of money, and then, the venture capitalists dropped their support. They decided the progress was not satisfactory, so, before it really got off the ground, [it was over]. As a matter-of-fact, they hired me and they put me on their advisory committee. I was on their advisory board, and I told them they were moving too fast and they weren't doing enough clinical work. … We had to be sure, you know, we were right, because … getting a product like this approved by the FDA is going to be a horrendous task, because they just didn't realize what's involved there. I mean, I'd contended with the FDA for years, years, to get products approved for sale.

SI: What would the end result have been?

JS: It would have been something they could administer that they felt would block the reproduction of the virus, and so, you know, you'd basically cure the infection; at least that's what they were thinking. … It was a protein that was present in blood plasma that would do this, but they went out of business. I never … really got to talk much with the real technical people. The guy who thought up the whole thing, and got the venture capital backing, was the faculty member at the medical school at Texas A&M. My son knew him before I ever heard of him, but he was familiar with me, right. He knew that I worked for Gamma Biologicals in Houston, Texas, and then, he asked my son about Gamma and me. So, then, he came down and talked to me about our doing some work. … That was about the time I was leaving Gamma and doing my own consulting, and they took me on as a consultant. He was one of my first clients, but, then, they ran out of money and their venture capitalists cut off the spigot. … I don't know [if] this guy didn't have any more ideas or he didn't know what to do for additional money. I didn't get involved in any of their finances. I just told them that the clinical trials were going to be mighty expensive, it's going to take a long time, and so on, but I don't think that they paid that much attention at the time. … They went out and built this laboratory and hired a lot of fancy staff, PhD level people, but I'm not sure they knew what they were doing in terms of the … commercial preparation of plasma proteins. They really didn't understand it that well.

SI: Do you think it would have worked, or is there no way of knowing that?

JS: No, there's no way I could tell. I doubt whether it would be as efficient as the other drugs that subsequently came out, because it amounted to harvesting, processing, quite large volumes of human plasma, presumably collected from blood banks. They centrifuge off the cells and save the plasma. These plasmas are pooled and they're eventually used to produce human albumin, or gamma globulin, other products from human plasma, but the volumes that were going to be required by this process, because the thing was in mighty small concentrations, [were going to be large]. … I really don't know how efficient their recovery process was. … Maybe they were losing ninety-nine percent of the protein, right, and they … only wound up with one percent. So, the volumes could have been reduced drastically, but we … never answered any of those questions, because we really didn't know, and I don't know why this guy just gave up. …

In the meantime, he'd left the faculty at Texas A&M. I forget where he went, and then, the company just went out of business. … He just couldn't renew their funding, so, they just closed down.

SI: I do want to ask a few more questions about Rutgers.

JS: Sure.

SI: We may repeat some things we talked about over lunch, but I want to get it on the record.

JS: Yes. Well, that's okay.

SI: You told me over lunch that you originally lived in Highland Park.

JS: … Right, on South Adelaide Avenue, right. Yes, the first year, … I wasn't eligible for freshman housing and they couldn't fit me in the other housing. The sophomores all lived, or most of them, off campus, mostly in Highland Park, well, Highland Park and New Brunswick, right in that area. … I had to make a special trip down to New Brunswick and stopped in, they had a housing office, and they gave me some addresses. So, I went over to Highland [Park]. They were all in Highland Park, [laughter] so, I just got on a bus and went over to Highland Park, started talking to people. … One of the couples I talked with was Mr. and Mrs. Hirsh, and they impressed me as probably being the most desirable. It was the closest to the University and they were very friendly people … and that was a very nice room, and so, I signed on with the Hirshes. So, I used to get up in the morning; you know, it was a long day, though. I mean, I wouldn't want to do that all the time. I was thinking of staying there, but I thought of those days, because, you know, I'd have to get up early, and then, get over to the University. … I don't know if the University Commons, is that old airplane hangar [still there]? I guess that's gone.

SI: Yes, that has been replaced by newer buildings.

JS: … Yes, right. Well, that used to be the University Commons. … What it was was a big cafeteria, right, … where they used to serve the students meals. … I would get up and get over there and eat breakfast, and then, go to my eight o'clock class. I always managed to have an eight o'clock class, for some reason or other, and then, to my subsequent classes. … I always had classes in the labs in the afternoon. So, I was there until four or five; sometimes, the labs ran over. … I'd go to the library and do some work, if that was appropriate, and then, I'd go back to my room in Highland Park. … Basically, I just slept there, more or less, [laughter] but, getting back and forth, that was time consuming. … With my class schedule, I really didn't have … a heck of a lot of time to get involved in [school activities], like my two roommates. Well, when I moved, the next year, into Wessels [Hall] 302, [I was] with two roommates who were graduated from the same high school I graduated from, in Clifton, New Jersey, only they were younger and they bypassed service in World War II. One was in ceramic engineering and the other was a pre-med. He had taken some of the same biology courses I had to take, you know, when I joined them, because I was in my second year. … Then, I got into the room with them in Wessels 302 for my junior year. … It was just too much going back and forth, trying to get the meals, and then, running back to the room [in Highland Park], right. I had to carry all my books,

necessarily, right, with me. I couldn't come back to the South Adelaide [room] just at lunchtime and pick up a book, or something like that. I had to take everything with me over, and then, [take] everything back. … Then, if I did any work at the library and checked out books or anything, I had to carry [those]. Also, the library annex, … we were using Alexander Library at that time, then, … they had a library annex in an old World War II building adjacent to the Commons, which was, like, a stone's throw from Wessels 302. So, that thing was open until the wee hours of the morning. So, I could go over there and study and it was very convenient to get back to my room. So, I decided, although I liked the Hirshes very much, and Mrs. Hirsh was certainly helpful to me, I had to go live on the campus. … Of course, when I moved back to the campus, things really hadn't changed that much, because my roommates used to laugh at me, … "You're spending your life in the lab." [laughter] Their philosophy was, "Take the minimal number of courses you have to take in the easiest subject areas that you can think of, so [that] you can pass the courses and earn a high GPA, then, go on and get your job, go on with your career from there." … Actually, the one roommate, Theodore Chapman, went on and got a PhD and became a professor at Georgia Institute of Technology. He died about seven or eight years ago. Now, the other fellow, George Demougeot, who was a pre-med major, didn't make it into medical school. He got a job for Westinghouse, the old Westinghouse, and I know he worked in Biloxi, Mississippi, for awhile, and then, he spent a lot of time over in North Africa. … I don't know what happened to him, but he sort disappeared, got off my radar screen. I haven't been able to locate him.

SI: You were there at a time when the campus was overflowing with veterans returning on the GI Bill.

JS: Right.

SI: What influence did the veterans have on the campus, just in a general sense?

JS: Well, I don't know that they really had that much influence. … Well, they were sort of older guys, right. They were more serious about their studies than, like, the two guys I roomed with. They were always trying to figure out a way of getting out of doing work, right. They wanted the easiest courses and they wanted to do as little as possible. You know, they'd bone up, even at the last minute, to take a test, or they'd have trouble getting to class, or something like that. Of course, the veterans never had any problems like that. I mean, they were serious. They were there to learn and they were always well prepared for everything. … They wanted to take courses that would really provide them with the backgrounds that they wanted to have and they were willing to spend the time studying. I didn't take all those science courses because they were easy. [laughter] I took them because I wanted to learn how to do laboratory work and work in science, and that's why I took them. I wasn't looking for a snap course that I could get a "B" in and … do no homework or cut half of the classes, unlike my two roommates. They were always looking for an easy way out, but they were the average student, right. The average student gets to college and he wants to have a good time; the veterans weren't interested in that. They weren't interested in the fraternities and all that kind of stuff. They were there seriously, wanted to learn as much as they could while they were at the University. Then, they wanted to go out and get a good job, or they wanted to go on to graduate school, if they were so inclined or they were qualified to do that. That seemed to me to be the difference between the veterans versus the non-

veterans. Of course, … the non-veterans were all two, three, four years younger, … and just out of high school, right, or two years out of high school, or three years, in college. So, they were not as serious as the veterans were. That's about the only, you know, difference that I noticed. As a matter-of-fact, I enjoyed being with the non-veterans. [laughter] … They were less serious, right, than some of the veterans, and they were always fooling around and jokes, pulling jokes, practical jokes, on one another, which I didn't really pay much attention to when I was in the room. Actually, I was in the lab most of the day, and then, at night, I was in the library, because there was no way I could study in my room, because the undergraduates were in there playing cards and talking about this, that and another thing and having a general good time. I mean, the place I didn't want to be, to get my studies done, was in the room. I couldn't study. It was too noisy and distracting. So, actually, I spent most of my nights then in the library. [laughter]

SI: Did you ever take any classes with Selman Waksman?

JS: No. Soil microbiology was big; I did consider going to graduate school … over there, but I decided I didn't like the program they had over in the [Waksman] Institute of Microbiology, because I went over there and talked with one of the faculty members. I've forgotten his name. He was a soil microbiologist, because I did consider, before I started the applications to Harvard, Yale and the University of Pennsylvania, MIT, I had Rutgers in mind. Because I had really enjoyed microbiology a lot and was interested in doing some work in that area. As a matter-of-fact, my biological nitrogen fixation project, that I keep referring to, [laughter] was based on work that had been done with legumes. Biological nitrogen fixation was a symbiotic process that occurred in certain legumes, peas, things like that. Faculty at the University of Wisconsin had done significant research in that area, growing peas, and, in Finland, there was important work done with legumes, testing how they fixed nitrogen, but there had been a report in the literature that a particular bacterium, *Azotobacter vinelandii*, was capable of fixing atmospheric nitrogen. … I thought, "Hey, we're not going to work fooling around with these messy plants. [laughter] I'm going to get this *Azotobacter* and I'm going to find out how plants fix nitrogen." That's what I thought when I went to MIT, but it didn't work out that way. … Anyway, to get back to your point, no, I didn't take any classes with Dr. Waksman. The program they had over there was, basically, … as a graduate student comes in, he is assigned a major professor, he does some nutrition study on some actinomycetes, which he isolates from soil Dr. Waksman procured from Peru or South Zambia or someplace. … You isolate this organism in pure culture, … then, we see if it produces any antibiotics. If it produces any antibiotics, then, we get hot on the trail of the new antibiotics. In the meantime, if it doesn't pan out, the student has enough material, enough laboratory data, for a doctoral thesis explaining the nutritional physiology of this particular species of actinomycetes, or something like that. … That did not appeal to me. It was sort of a …

SI: Cookie cutter?

JS: Yes, like a cookie cutter thing, or, "Get in line and, you know, go through these motions and you wind up with a doctoral degree. Along the way, you *may* discover something like streptomycin," but … it wasn't really that challenging, I mean, because the work was simple work. Any undergraduate who's taken a good course in soil microbiology could do all that work. … If the antibiotic was there and you discovered it, I mean, then, you discovered it, but I really

wasn't interested in screening soil samples for organisms that produced antibiotics, even if they could cure every disease in the world. [laughter] It just didn't appeal to me.

SI: By the time you were at Rutgers, had they stopped mandatory chapel, or did they still make you go?

JS: No, but we went to chapel on certain occasions. Now, I think they originally said you were supposed to go to chapel with a certain frequency. I think it was once a week; I'm not sure. Maybe it was once a month, but whatever it was, we didn't go that frequently. … We did have chapel several times during the three years I was there, in Kirkpatrick Chapel, yes, but we didn't have to go, and the reason we went there is they had some message to deliver to us. It wasn't for a religious service or anything like that. There was somebody, like the dean or somebody, who wanted to address a certain segment of the student body or something, and so, we were supposed to go. At noon on Wednesday, we were supposed to assemble at Kirkpatrick Chapel.

SI: While you were at Rutgers, the Korean War broke out. Did that concern you at all?

JS: Nope, not in the least.

SI: You were not concerned about being called back.

JS: Nope. I severed my Army connection completely. [laughter] They prevailed upon me; oh, they put the pressure on at Fort Monmouth, when they discharged me. They wanted me to sign on to the Signal Corps, go to Officer Candidate School. I had a major that was in charge of my sub course, where I taught, sat down with me one day. He was a young kid, about twenty-four years old, was a major, and he tried to sell me on going to Officer Candidate [School]. He said, "We'll be generals in the next war." That was the statement that he made to me. I said, "No thanks, I don't think I want to do that. I don't think I'm cut out for the Army. I wouldn't be happy in the Army," and so, I left. … Then, of course, then, they wanted us to join the Reserves, right, wanted to sign us up for this, that and another thing. "Nope, nope, nope, nope, I don't want any connection with the Armed Forces. Once I leave, it's over. I did my share, such as it was." [laughter]

SI: Is there any part of your life that we have skipped over or anything you would like to add to what we have already discussed?

JS: No, there's nothing. Well, I haven't mentioned my children.

SI: Okay.

JS: I have two sons. One, my oldest son, was a good student. He attended and graduated from Brown University and, subsequently, got his doctorate at Johns Hopkins University. … He subsequently held a faculty position at Texas A&M Medical School, where he was, for many years, Professor of Medical Biochemistry and Genetics. He just retired recently. I don't hear too much from my second son. He won't leave the East Coast, [laughter] but he works for ADP [Automatic Data Processing, Inc.]. He attended Villanova University and graduated from

Villanova in '81 or '82. Yes, I think it was '81 or '82, but I don't see very much of him. I haven't seen him for quite a few years. … Other than that, they seem to have turned out well and I've never had any trouble with them. I mean, I know drug use was rampant when they were in high school, and I was worried about them in college and the Vietnam War was going on. My son had to register for the draft, looked like he might be drafted, and then, they went to the lottery system. … Fortunately, he, I don't know whether he picked a high number or a lower number, I don't know what it was, but he was not drafted, anyway, right, but he was involved in; … you remember when they had all those student demonstrations and they shut down universities? He was going to Brown and the students had these demonstrations on campus. They shut the campus down, because I called the campus and I asked, "What's going on up there? … I spend good tuition money sending my son to school and I understand you're not holding classes. What's going on up there?" Then, I talked to my son and got through that, no problems, but, … yes, he participated in some of those demonstrations. Actually, he participated as a proctor. They designated a certain number of people as a proctor; they wore special armbands. So, if you were, you know, a proctor [and] detected what might be an imminent altercation or something, he interfered and they were supposed to give way to the proctor. So, he was involved in a couple of those, … but, then, everything, you know, settled down and was okay. … You know, I was a little bit worried, at that time, both that my kids could be drafted, one, or they'd get into one of these demonstrations and be seriously injured, and especially since I was paying for their college educations. [laughter]

SI: How did you feel about the Vietnam War in general?

JS: I thought it was a big waste of time. I thought it was the biggest mistake I'd ever encountered, totally waste. I always felt that way, from day one. I don't care what, what was his name, the ex-Ford executive? …

SI: Robert McNamara. [Editor's Note: Robert McNamara served as president of the Ford Motor Company shortly before becoming Secretary of Defense from 1961 to 1968.]

JS: McNamara, Robert McNamara; I didn't believe a word he said, not a word. I remember listening very carefully to him on the radio, … in September, "Your boys will be home by Christmas," blah, blah. "We're not going to get [boxed in]." I said, "You lying son of a gun. You know damn well those kids are not going to be back by Christmas." No, I was really opposed to it, but … I wasn't an activist. [laughter] I was busy doing other things, but I was just sort of fed up with the whole thing, really fed up, with the administration, with [President Lyndon B.] Johnson, McNamara and that whole crew. My favorite President is Harry Truman. I turned twenty-one in 1948, you had to be twenty-one years old to vote in those days, and I voted for Harry Truman. … I voted in every Presidential election since, and I've jumped back and forth from Democrats to Republicans, and I voted for Ross Perot in '92. I voted for Adlai Stevenson in '52, but Eisenhower in '56, because I decided Eisenhower was doing the right thing. … In my mind, I convinced myself I would never vote for a candidate who has spent his life in the military forces, like Eisenhower had done. As a matter-of-fact, I had read a couple of biographies of Eisenhower; I could never understand why Dwight Eisenhower was ever appointed Supreme Allied Commander in Europe. I could never understand how he made general, because, if you read his biography, he was a poor student. All he was interested in was

athletics. He was in the Army for years and never had a command. He was always in a staff position. Yet, when it comes to appointing [commanders in World War II], right, he was put in charge of some operations in North Africa and screwed them up. … I searched the literature, and read and read and read, to find out why Franklin D. Roosevelt appointed Dwight Eisenhower to the position he was in, as the head of SHAEF [Supreme Headquarters Allied Expeditionary Force]. … I finally found out that [answer] in the biography of Eisenhower that I have on my shelf, and it was … George Marshall, who was Chief of Staff [of the Army]. … It was his duty to appoint the guy who was going to head [SHAEF], right, a big battle between Roosevelt and … [Prime Minister of the United Kingdom] Winston Churchill, "Who was going to head up this organization?" you know. "Well, the Americans were going to do it," blah, blah, blah, blah. So, okay, he got Churchill to agree, it was going to be our appointment, the US's appointment, and Marshall was going to appoint the guy. Dwight Eisenhower graduated in the Class of 1915, which produced more general officers than any other class in the history of West Point, and they were all good guys, Omar Bradley, George Patton, Ridgway, and then, Westmoreland and all those guys, right, in the Class of 1915. [Editor's Note: General George Patton graduated from the US Military Academy in 1909, General Matthew Ridgeway in 1917, and General William Westmoreland in 1936.] … Here's Dwight Eisenhower, who's been in staff, but he never had a command; in his whole time in the Army, never commanded a unit. He was only in a staff position some place, and … not too good at it, according to the statements [General Douglas] MacArthur had made. So, why in heaven's name did he appoint Eisenhower, when he had all these other guys to appoint? … It was in a letter that this author found to some friend of his, who asked … Roosevelt the same question, "Why did you appoint Eisenhower?" and he said, "I felt that Eisenhower was the best politician, and that's what we needed in the position." It wasn't military competence or military expertise [that] was the most important. He was going to have to deal with Winston Churchill, who was the British commander? [Field Marshall Bernard] Montgomery, and the French and the French Underground, and get these guys to work together. … "I sort of felt that Eisenhower was the guy who could do it, because he was the best politician." That's why he got the job; finally answered that question. I asked that question for years. … Well, I ask that question all the time of prominent people, like, why in heaven's name would anybody vote for George Bush for President? What is there in George Bush's background that would make you believe that he could serve well as the President of the United States, or the president of anything? and there is absolutely nothing in his background that would indicate [that]. That's the conclusion I came to, and which is why I voted against him. In 1952, I felt that Dwight D. Eisenhower had this military experience, but, you know, why would I appoint a general, … who must be successful in the military [and, therefore], have tunnel vision with respect to certain foreign policy questions and things like that, [as the] President of the United States? No, no, not me, I wouldn't vote for such a person. So, I voted for Adlai Stevenson. Of course, I happened to like Adlai Stevenson, you know, thought he was a good guy. Maybe if Eisenhower had some other background, I would have voted for Stevenson anyway, but I would certainly never vote for a military man, … no, you know, knowing what I knew about the military and [the] attitude, you know, that I developed subsequent to World War II and the Korean War. Then, however, in 1956, I changed my mind and I decided Eisenhower was doing a good job; well, not necessarily a good job, but he was okay to vote for. He wasn't going to take us into any crazy foreign adventure. [laughter] Well, he gave us a warning, right, the … industrial-military complex; look what's come to pass. [Editor's Note: In his Farewell Address to the Nation in 1961, President Eisenhower warned against the growing influence of what he

called "the military-industrial complex."] … I had to vote for [Richard] Nixon, the next one was Nixon-Kennedy, and I didn't see how anybody could possibly vote for John Kennedy for President of the United States. I followed his career and, … you know, I looked up his background. He spent eleven years in the Congress of the United States, never, never proposed or promoted major legislation of any kind. He signed on, co-sponsored a few bills. He was absent for forty percent of the roll call votes while he was in Congress, and we're going to elect this guy President of the United States? Now, I know he's charming, [laughter] I know he speaks well, I know he inspires people, I know he's attractive, but look at his background. How can I vote for this man for President of the United States? I can't. I've got to vote for Richard Nixon. I voted for Richard Nixon, but the next time around, I didn't vote for Richard Nixon. [laughter] … I have voted in every Presidential election and I've bounced all over, voted for Libertarians and Ross Perot, but my general opinion, at the present day, is there's not really … a dime's worth of difference between Republicans and Democrats. I mean, there's a culture in Washington that's just [set]. I'll be very surprised if Barack Obama changes it, although I admire the guy quite a bit and I admire what he's trying to do, but I just have this feeling that he's not going to be successful. The culture, where you've got these people established in Washington and they're not letting go, they're not giving up authority, power or anything else. They're going to maintain the *status quo*. They have managed to do that for years and years and years, and what makes you think they're going to change, because Barack Obama says we need change, because the American public said we need change? How many times have they ignored the American public? Who ever pays attention to the average citizen anymore? nobody, right. They've got this little club in Washington, and I don't see how you can break it up. I don't see how he's going to be able to do it. Well, look what's happening, right; he comes in preaching change and … what do we get? We got all those Clintons, Clinton III, now. We've got a tax cheat as Secretary of the Treasury, we almost had another tax cheat as Secretary of Health and Education. Right, I mean, … how has it changed? I don't see there's any evidence that it is going to change. It's going to go on the same as it has in the past. However, … Obama, I think he's doing a good job. I mean, he's obviously got the jump on, you know, his administration, off the blocks, right, on day one, ready to go. So, he's done some planning and he's done some thinking, and he ran a terrific campaign. When he … first started his campaign, I said, "This guy can't be elected. He's going out into these," what do they call them? Not the elections, where they have the, when he won in Iowa?

SI: Caucuses.

JS: Caucuses. I said, "The caucuses are dominated by young people. They're all excited, right. They go out to the caucus at night. All the old people are sitting at home, right. They don't go to the caucuses. So, the enthusiasm you see in the caucus is on the part of the young people, but, then, on Election Day, all these seniors get up and go to the polls and vote, and all these young guys, you can't find them. They're in some bar, having a good time. So, how is he going to win? What kind of strategy is that?" [laughter] So, I was wrong. He made that thing work, and I really didn't believe we could elect an African-American to the Presidency. … That may, in part, be because I live in Texas. Maybe if I lived in New England, I would have thought so, or up North some place, but I see too many people down here who've lived in Texas all their lives, well-educated people, well-meaning, but they're just; … they don't want to go back to slavery or anything like that, but … I detect a prejudice against black races, and even Asians and Hispanics.

… I just didn't see how they could be elected, but I was wrong, fortunately. So, I'm glad to see that I was wrong on that one, I mean, that something is different, right. I've missed something, somewhere, or maybe it was just the cleverness of his campaign, to get these people to vote for him, and they did, but I'd like to see the final background, who voted for who here, because there's some discrepancies in the primaries. … I paid very close attention to the primaries in Ohio, Pennsylvania and New Hampshire. … The exit polls showed that Obama was leading by five, eight percentage points, and then, after it's all over, Clinton wins by fifteen or ten, right. Now, how could that happen? … [Is it] the validity of the polling that they do, exit polling, or what? I mean, how could the exit polling, … right, they're testing the same sample, the same sample that comes early to the polls and comes out early, they don't wait until the last minute, shows that Obama's winning, and what happens? … You tuned in later, a little bit later, or you turn off your TV set and go do something, come back and the thing's over and Clinton's won by fifteen percentage points. What happened? [laughter] How could that be? I couldn't understand that.

SI: Thank you very much, unless there is something else you want to say.

JS: No, well, I could probably go on for a couple of hours, but I'm finished. I want to let you to get back to New Jersey, or wherever, to Dallas, wherever you're going.

SI: I want to thank you for all of your time. We really appreciate it.

JS: Oh, you're quite welcome.

SI: When you get the transcript, if there is anything else you want to add, you can always add it in.

JS: Okay.

SI: This has been really great. This concludes my interview with Dr. Jacob Struck on February 5, 2009, in Houston, Texas. Thank you very much.

JS: Thank you.

----------END OF INTERVIEW----------

Reviewed by Jessica Ondusko 1/31/10
Reviewed by Shaun Illingworth 8/24/10
Reviewed by Jacob Struck 11/21/10