

RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY

NEW BRUNSWICK

AN INTERVIEW WITH THEODORE W. SATTUR

FOR THE

RUTGERS ORAL HISTORY ARCHIVES OF WORLD WAR II

INTERVIEW CONDUCTED BY

KURT PIEHLER

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TRANSCRIPT BY

DAVID TSANG HOU

Kurt Piehler: This begins an interview with Theodore W. Sattur on September 12, 1994, at Rutgers University in New Brunswick. I would like to begin by talking a little bit about your parents. What did your father do for a living while you were growing up?

Theodore Sattur: My father was essentially a working man, a laborer, and he progressed to where he was a supervisor in an electro-sheet plant. ... The outfit he was with developed the process of plating a very thin sheet of copper, which is used ... in electronics today, and he was part of that. He worked for Anaconda, which had a plant in Perth Amboy called Raritan Copper Works, and that was my first job, as an apprentice in Perth Amboy.

KP: What was it like to work in the same plant where your father had worked?

TS: Well, it was great, because my father had a great ... reputation. They told me that, if I was half as good as my father, I'd be a great find. So, I got started very well, but, working conditions were very poor there. ... A control laboratory is an added cost to any process, and they were very careful about spending money, and equipment was lacking, and they were very reluctant to change methods. When we found a new method, we would run it by two methods for six months before we would change over, things like that. Plus, the ventilation in the laboratory was very poor. I stayed there about a year-and-a-half and left, which was very difficult, because the war had started and you had to get released through the government to change jobs. So, I left there and went to work for Metal and Thermit, in the research department, which was located, at that time, in Rahway, but, actually, was part of Woodbridge. I worked there for four years, 'til the end of the war.

KP: In your father's day, were there many industrial accidents at the plant?

TS: No, no, it was a relatively safe place to work. They worked at safety and had a good safety department. They had their own fire department. They had their own ambulance. ... In that way, it was a good place to work.

KP: While Anaconda was reluctant to make technological changes, the company did emphasize safety.

TS: Yes. That's always been a big thing in any company I worked for, 'cause it's very expensive to have accidents.

KP: Your father was a Navy veteran.

TS: Yes.

KP: He served in World War I.

TS: World War I.

KP: Did he ever talk about the war?

TS: Very little. The only thing he ever mentioned was, they had a half crazy man aboard. ... He was a sharpshooter. He used to shoot the light out in the pilot house ... [while] they were steering the boat. I mean, he was up in the pilot house doing this, and then, [the crew would] get all excited, but, [it was] somebody in the crew that did it. My father didn't graduate from high school. He had to go to work. He left high school to go to work, because his father left and abandoned the family, and I didn't know my grandfather until I was a grown man.

KP: How did you meet him?

TS: Well, he came back one time to try to make up with my grandmother, but, she refused.

KP: Your grandmother raised your father.

TS: Yes.

KP: Did she do it alone?

TS: Yes.

KP: How did she do it?

TS: Well, they all went to work. She had, let's see, my aunt, and my father had three brothers and two sisters, so, they all went to work.

KP: Did they all work in Perth Amboy?

TS: No, this was in Wellington. My father was born in Wellington. I was born in Passaic, and he worked there for (Flintco?), which was a roofing company, and then, Anaconda opened up a roofing plant, and they were copper-plating the granules on the shingles, and they made an excellent roof, but, the copper salts on the plate changed colors, and they couldn't predict what color they would be. You know, they changed colors according to the temperature and humidity, so, it failed as a business enterprise. In the meantime, they had these copper solutions, and that's where they started working on the circuit foil system, and they were plating a thin layer of copper on a lead drum and peeling it off after it got [to] a certain thickness, and they could control the thickness by controlling the contents and the speed of the drum, and that, as I said before, was the source of all thin copper metal. ... You can roll it out, but, you can't get it thin enough and even enough the way you can with an electrical plating system.

KP: Who were the major buyers of this copper?

TS: [The] electronics industry, circuits boards and all. They'd start out with a sheet of copper, and put a coat of resin drawing on it, and then, etch away the part they don't want, and that leaves

a very fine circuit, very intricate. You may dip it in solder, and then, put things in, and dip it in solder. ... It's all done by robots, now.

KP: How did the Great Depression affect your family?

TS: Well, fortunately, my father worked most of the time, except during the bank [crisis], when the banks were closed. Remember, they had a ... two week bank holiday, and he was laid-off at that time, and ... we had some money in the bank, not very much, but, we couldn't get it, but, we eked it out. I remember going to steal coal. We lived across the street from the freight yards, and I went over and stole a couple [of] bags of coal, and I went downtown every morning and picked up, you know, fruit [that] used to come in wooden boxes in those days, and the merchants would put it out for the garbage, and I'd bring those home, so we could burn 'em, but, we eked it out.

KP: Did you lose the money your family had in the bank?

TS: My mother lost some money that she had with her mother-in-law, kind of a joint account. We took care of my grandmother for many years, and, when she died, that, of course, reverted to my mother, and it was in a bank in Passaic that failed, and some of that money was lost, because it wasn't insured in those days.

KP: In the 1930s, were you living in Perth Amboy?

TS: We lived in Perth Amboy from 1931 on.

KP: Before 1931, you were in Passaic.

TS: Passaic, yes.

KP: I have read that both Passaic and Perth Amboy were known as industrial towns.

TS: Yes. Passaic was a woolen center and (Forestman?), (Hoffman?), and Botany, Botany Mills, had the largest integrated wool mill in the world. ... They were quite successful, 'til they had a big strike during the middle 1920s and, after that, they never did well. It was a very violent strike. They had their own cavalry. I remember it, 'cause I went to the school through that area. ... Women strikers were stabbing the horses with hat pins.

KP: Did you actually see the violence?

TS: Yes, and they were throwing marbles in the street, 'cause the horses had leather shoes, and they would slip and fall, and the men would beat the women and all the men picketers, and newspaper men came in armored cars, 'cause they were chasing the photographers taking pictures, and then, Botany brought over Germans, from Germany, and housed them in Garfield and other places, and they were blowing up the houses ... where those people lived. It was very violent and the company never succeeded after that. It never came back. Well, things changed,

anyway. Wool clothes are very expensive. They had a line of excellent woolen ties. My aunt used to buy them and give them out as presents. My mother worked there, too, and I have a card [at] home that shows that she worked six days a week, twelve hours a day, for ten cents an hour, about 1926.

KP: Did she take part in the strike?

TS: No, no.

KP: How long did your mother work for?

TS: My mother worked all her life.

KP: Even when you were going to school?

TS: Yes. She had been a housewife. During the war, she worked for General Cable in Perth Amboy.

KP: You were used to seeing your mother go off to work.

TS: Yes.

KP: You grew up that way.

TS: Oh, yes. I did a lot of the shopping, got to peel potatoes, so [that] things would be ready when she got home. My dad kind of didn't like that she worked. It was part of the necessary (commoner?).

KP: How did your mother feel about working?

TS: Well, my mother was a woman activist, in a way. She was very active in the American Legion Auxiliary, did a lot of work helping veterans, made regular trips to Mines Hospital, which is a mental hospital for veterans, very active in all phases of the auxiliary, also, in church work.

KP: Which church did she belong to?

TS: Catholic, Roman Catholic.

KP: Did your mother finish high school?

TS: No, no, I don't think she went to high school at all.

KP: Do you think that your mother, if she had had the opportunity, would have wanted to go to high school or college?

TS: Oh, yes, I'm sure, and she was a very intelligent woman.

KP: How did your mother and father feel about education?

TS: It was necessary. My father had a half-brother whose three sons are all [college graduates], two of them are doctors and one was a dentist, and he was determined. This was where the push came to be a doctor.

KP: He wanted you to become a doctor.

TS: Yes, a doctor, but, they were disappointed, of course, that I didn't, but, I think I've been successful. I'm listed in *American Men and Women of Science*, so, I've achieved some recognition.

KP: Your family is of German extraction and I know that, in German culture, titles like "doctor" are valued highly.

TS: Yes. Well, my father was well-read. You know, he was a very intelligent man, and he did very well in the market, considering that he didn't have much money to play with, and my mother always fought him about [that]. She said, "That's gambling," the market [was gambling].

KP: He actually invested money in the stock market.

TS: Yes. Now, he died in 1957 and he left an estate of 40,000 dollars, which, you know ...

KP: Is considerable estate.

TS: ... You multiply that by ten or twelve, which would bring you up [to] today's [money], but, that's a nice estate, and he was only a working man.

KP: Did he lose any money in the stock market crash?

TS: No, no.

KP: Was he in the market before the crash?

TS: No, no, he didn't start until after the [crash]. It was a good time to come in, after the market [collapsed], because things were very cheap.

KP: You went to school in both Passaic and Perth Amboy.

TS: Yes.

KP: What differences were there between the two school systems?

TS: At the time that I would [have] transferred, which was 1931, Passaic school system was vastly superior. They were more geared to practical knowledge and pushed you along in science, in manual arts, physically, and we had those great basketball teams during the '20s, and they ... had a system where, in gym work, you did all these exercises to develop all parts of your body, your reaction time, and so forth, snatched the club, climbing ropes. ... You never did anything like that in Perth Amboy.

KP: How was your class made up, ethnically? How many were first-generation Americans?

TS: In both places, every group, every group. In Perth Amboy, you have a large Jewish population. We had a big Danish population. My wife, incidentally, is Danish born, and [there was] a Czechoslovak parish which had a big group, [we] had the largest Polish parish, ... probably, in New Jersey, [and] a large Italian parish. So, they had those. ... [It was a] very mixed, heterogeneous group.

KP: Did most people speak their native languages or was English commonly used?

TS: Well, English was common. They kept both. For instance, my wife and her family, they spoke Danish. She spoke Danish 'til we got married. As a matter-of-fact, my mother and father-in-law both spoke English very well. My father-in-law had the accent, but, he ... understood and spoke English.

KP: You said Passaic had a much better school system. Was there more of an emphasis on going to college?

TS: I think so. There was more wealth, I think, in Passaic at that time. I think it's changed now. Passaic's gone down the tubes, like most [of] the rest of the places, the industrial cities. There was the other side of the track. It was really true in Passaic, because every railroad ran right through the center of town in those days. It's gone now, but, ... a lot of the industrialists lived in ...

KP: Passaic.

TS: ... Yes, Passaic Avenue, and I remember, we used to walk up just to look at the homes, the estates. I was on the way to Passaic Park, where they had a lot of ball games, and my father was a baseball follower, big sportsman.

KP: Which teams did he follow? Did he take you to see the Newark Bears?

TS: No, Giants. He was a New York Giants fan.

KP: Did he take you to the Polo Grounds?

TS: Yes. He was a National League fan, didn't like the Yankees, too. I'm a Yankee fan. ... We'd go to the Dodgers once in awhile. He was a Giant fan.

KP: Do you remember the first baseball game you went to?

TS: Oh, I remember seeing Babe Ruth. I must have been six or seven years old. Then, there was a team called the Dorothy Silk Socks, [from the] Dorothy Silk Mills, and they made silk socks in Paterson, right on the Clifton border, and the owner was a man named Dorothy, and he sponsored a baseball team, and he took all the aging major leaguers and hired them. ... You know, they played once or twice a week. They were very good. He had a couple of good pitchers and home run hitters and they played. It was a semi-pro team and, in those days, there were a lot of 'em around. In fact, in Perth Amboy, we had an excellent industrial league and a city league in those days and they had several thousand people during the week at ball games in the evening, excellent, excellent ball.

KP: That is something that has completely changed.

TS: No, no, things are different today. ... It's coming back now in New Jersey. We have two teams down in ...

KP: One in Trenton and one in Sussex.

TS: Yes.

KP: Your parents encouraged you to go to college.

TS: Yes.

KP: When did you begin to think that you might go to college?

TS: Well, all through high school. I was valedictorian of my high school class. I came here on a state scholarship. It was all paid.

KP: How crucial was the state scholarship?

TS: Very important, very important. Keep in mind, in those days, my father made, you know, like, sixteen dollars, and then, twenty-two dollars a week, you know, forty cents an hour, forty hours, and then, it was sixty cents an hour. My mother, of course, worked, but, she got, like, five dollars a day [for] cooking supper and doing all the laundry and dusting in-between. She wasn't a well woman. She died when she was fifty years old.

KP: Where did your mother work? Whose homes did she take care of?

TS: Well, she worked for awhile in Perth Amboy. She worked for the (Coppo?) family, the man [who] owns Mayfair Foodtown. ... She worked for his parents and she worked in Metuchen, first. The man was an executive in ... I don't know what company. He was an executive in New York. She went and did the laundry and made supper a couple of days a week, and then, when the war started, they were hiring women in the factories. ... She worked on the ... cable line in General Cable, which was right in the neighborhood that we lived in.

KP: What was she doing there?

TS: Something 'bout where they were drawing the cable, and I remember, benzene splashed in her eye, and she had an industrial accident. She did quite a job of it, because benzene's a bad carcinogen, and she had quite a lesion in her eye for a long time, and I remember her wearing coveralls and going to work.

KP: Your mother was a Rosie the Riveter.

TS: Yes, yes.

KP: What did you think of her working there at the time?

TS: Well, I didn't think anything of it. It was part of the ... war effort.

KP: Did your mother believe that she was contributing to the war effort?

TS: I think so.

KP: You were a commuter for all four years of college.

TS: Yes.

KP: You commuted from Perth Amboy.

TS: Yes.

KP: Did you take a train?

TS: There was no train. There was a bus service, but, ... I don't think I rode the bus ten times. [I] hitchhiked.

KP: You hitchhiked every day?

TS: No, that was the alternate. I had somebody pick me up at the house, and, if they were going home, ... I would get a ride home with them, if it was convenient. If not, I would hitchhike. I paid a dollar a week for that service. The bus was twenty cents each way, from Perth Amboy to

New Brunswick, and you could do it on fifteen cents, but, you'd get off at the city line and walk home. ... It was a lot of money in those days, you know.

KP: If you got off at the city line, how far would you have to walk?

TS: Two miles.

KP: When would you take the bus?

TS: Well, when I couldn't get a ride or something. I had to get home. Hitchhiking was convenient. There was a Silver Cup Bakery man, and [they] weren't allowed to pick up riders, but, I knew the driver. I used to go and sit in-between the bread boxes, so nobody'd see me, and then, get out ... and just get away right way. He wouldn't take me all the way, but, it was not that far, you know. It was only twelve miles. In those days, there wasn't much traffic and it was safe to hitchhike. Today, I wouldn't want to do it.

KP: How much traffic was there?

TS: Well, I used to drive from Perth Amboy to New Brunswick in fifteen minutes.

KP: For the sake of comparison, how long would that trip take today?

TS: Oh, probably forty minutes. See, Route 1 was only two lanes in those days. Now, it's six lanes, most of it. Woodbridge Avenue, the road past the Arsenal had very little traffic on it. Route 27, there were no traffic lights. There were no traffic lights on Route 1, either. There was one at Amboy Avenue. Do you know where that is, in Metuchen?

KP: Yes.

TS: Along there. There's a crossover, now, there, because they had so many accidents there. They built a bridge. ... The next one, I don't remember. There wasn't one at Plainfield Avenue then. Then, they put one on ... Woodbridge Avenue. There's a bridge there now, but, Plainfield Avenue didn't have a light.

KP: Traffic lights were fairly rare in central New Jersey.

TS: Yes, well, there wasn't that much traffic. ... You know, cars were expensive and I bought a 1931 Ford for ten dollars that had laid [unused] for a year, because the man died and the family didn't want the car. Paid ten dollars, bought a battery, pumped the air up in the tires, and it started and ran for several years after that, ... and then, we bought a very nice car for thirty-five dollars, another 1931, a Chevrolet.

KP: When did you buy these cars?

TS: ... Well, in 1941, they were ten years old. That Ford I ran during the war, but, it was a problem, because you couldn't buy tires. I'd be patching tires. I'd drive to work, come out, have a flat tire, and put the spare on, drive home, and, after work, I'd fix it, then, the next day, I'd have to change the other tire, and ... you couldn't buy a tire. You could go and buy old ... tubes, but, they were, like, ten years old, somebody had [them] in their basement, and they were just dried out. Rubber doesn't stand up against oxidization. It just gets weak on the outside. Everything was tube tires in those days. You couldn't buy the outside, either, but, [you] could buy things to ... [put] inside, if there was a worn spot, which would last awhile. ...

KP: Did constantly fixing your tires wear out the tube?

TS: Well, that's part of it, yes. Then, we didn't have a car for awhile, because somebody ran into that, and then, [we] couldn't get it fixed. So, I didn't have a car until the war was over, and my father bought a new car, and he sold me his old car for, I don't know, fifty dollars, or something like that. It was a 1937 Chrysler. It ... ran for a couple of years. Then, I bought a new Ford for about 1800 dollars, if I remember correctly.

KP: You entered Rutgers as a pre-med student.

TS: Yes.

KP: What did you think of your courses?

TS: They were very good. We had a good faculty, Dr. Cole, Dr. Allison, Boyden, Murray, and Doctor, he wasn't a doctor, but, he was very good, a doctor of urology, I think they're all dead now, ... (DeFalco?), Dr. (DeFalco?). ... Rutgers had a reputation, in those days, of never having had a medical student flunk out in the medical school. They were very selective in who they recommended for the medical school. ... I had a job on the NYA, which was another government program. You could make twelve dollars a month working whatever it was, you got a quarter an hour, and I used to come into the New Jersey Hall, which was, essentially, the Bacteriology, Physiology, Biology, Anatomy Department, and they had a laboratory stock room with all kinds of solutions. My job was to make up all these solutions, regular solutions, different physiological solutions, and I did that in my spare time and made twelve dollars a month, which was a lot of money in those days. It helped pay for my transportation, books, dating. You could go on a date for fifty cents, you know, [a] movie was a quarter.

KP: Where would you go on dates?

TS: Well, when I had a car, we came to New Brunswick. New Brunswick was a real nice place to come. It was very safe. It had nice shops and nice theaters, too.

KP: Did you go to the Garden State Theater?

TS: Garden State Theater?

KP: It probably had a different name then. It was the main theater on Monument Square.

TS: ... I don't remember the name, but, that was one of the theaters where they have the state shows now.

KP: Yes.

TS: Probably. Old Hotel Kilmer was across the street. Yes, that was a nice theater and they had a new theater on Albany Street, where the Johnson and Johnson offices are now. There was one right around the corner from that, Rialto, or something like that. So, there were three theaters and they had all the latest pictures.

KP: Did you ever go to the Corner Tavern?

TS: I was never in the CT, no.

KP: The Corner Tavern is still there.

TS: No, no.

KP: Rutgers students still go there.

TS: No. ... I worked on a beach as a lifeguard in Perth Amboy during ... [my] college days and high school and the yacht club was right adjacent to the beach. I used to go in there and they'd serve me. I was seventeen years old. I could drink beer. I never had any problem with that, but, ... I never drank very much, though. I enjoyed it, but, ... I was never a boozier.

KP: As a commuter, did you ever feel shut out from the college social life?

TS: Yes. I wanted to join a fraternity, but, my father said, "That's for rich men's boys. It's not for us," but, there was an independent fraternity called the Raritan Club, and I was pledged to it, but, I couldn't pursue it anymore, ... because my father wouldn't [let me].

KP: Your father was against fraternities.

TS: Well, he had these ideas. For instance, I liked to play tennis. I had an old, wooden racket that wasn't very good and, when ... we lived in Passaic, it was right across the street from the tennis court. They had public tennis courts, and I asked him to buy me a good racket, and he said, "No, that's only for rich people." He had these ideas about certain things. Of course, he struggled when he was young, ... but, he did well, considering his father abandoned the family. His father came back and his father died and was gonna be buried in a potter's field. He embraced him, and took up all the expenses, and had him buried properly, and so forth. He used to come and have dinner with us, come from New York now and then, Staten Island Rapid

Transit. ... He was always civil to him. He could have been mean, because he certainly didn't deserve any civility. ...

KP: How long was it between your grandfather's return and his death?

TS: Probably ten years.

KP: Your grandfather lived in New York.

TS: Yes.

KP: You mentioned that your parents were disappointed that you did not become a doctor.

TS: Yes.

KP: Were you the only one in your family to go to college?

TS: No, my brother's a Rutgers graduate, too.

KP: What year did he graduate?

TS: ... 1951, graduated in education. ... He's retired now. He taught math in Perth Amboy for many years. He was active with the athletic teams. He was a trainer, helping out in all kinds of school papers, and so forth.

KP: Your parents, nonetheless, must have been very proud that you were a college graduate.

TS: Yes, and they bought me this diamond ring.

KP: When you graduated?

TS: Well, when it was announced [that] I was valedictorian. They were amazed, 'cause I used to get hell all the time, see. I had ninety-eights, ninety-nines in everything, except Latin. In Latin, I would get [an] eighty-five, and my father would give me hell and say, "What's the matter?" and, you know, I always struggled in the languages, and they were amazed. They bought this ring. It cost fifty dollars in those days. It's a half-karat diamond. ...

KP: They were very proud of your achievements.

TS: Yes, that was a lot of money. ...

KP: Dr. Allison was your favorite professor. What stood out about him?

TS: Well, he had a nice gentle way, and he was knowledgeable, just his general personality, and

I had a relationship with him after [school], which may have colored my feelings toward him. I was active in dog shows, dog handling, and I was president of Union County Kennel Club for a couple of years, and I had him come up and give a lecture, ... which he was very gracious about. People were against having dogs used in the laboratory, and ... they did have dogs at Rutgers when I was there, and I think they still do, so, he explained how gently they were treated, and the work they did with dogs, and ... the good they do for dogs, not only for people, but, for dogs, with their research. He was well-received.

KP: Was this in the 1950s?

TS: Yes.

KP: Even then, there was opposition to experimenting on animals?

TS: Oh, yes, yes, especially among dog lovers. ... I was familiar with this, so, I know that, see, say they used to call the dog and say, "Come on and jump up," you know, and it'd come and jump up on the table, and they'd stick a needle in his ear and draw some blood. He just laid there like a pet. It didn't hurt him. ...

KP: You were in ROTC for two years.

TS: Yes.

KP: Did you want to stay in longer?

TS: Yes, but, they were very strict in those days. They had so many applying, and I wore glasses, and I had restricted motion in my knee, and I had good grades, and, in fact, I was the guidon bearer for the best company in the second year, but, I didn't make it, and I applied, during the war, on the V-7, V-5 programs, but, could never pass the physical.

KP: In 1940 and early 1941, did you try to remain in ROTC because you anticipated our entry into the war?

TS: No, I was as surprised as anybody else. I remember, ... I lived with my in-laws then, my father-in-law coming up and saying, "We're at war," because he'd had a news shop, and he got up very early in the morning, and he heard the news, and I think I was still in bed, telling us about the war. So, it was just as much a surprise that we were actively in the war.

KP: When you were going to college, did you think that the war was coming?

TS: Well, I don't think I paid that much attention to it. I think, when you're young, you don't really worry about a lot of those things, 'cause I knew [that] ... there were destroyers going to Britain and all the problems in Europe, but, I never thought we'd be involved, because there was so much opposition to us getting involved. ... Now, there's opposition to us being involved in

Haiti, which may be right or not right, but, it was the same thing then, I think, and people were opposed to being involved in the war that's away from us.

KP: Did you sense this sentiment among your neighbors in Perth Amboy? Was there any organized opposition to America's aid to the Allies?

TS: Not that I know of, no.

KP: What about at Rutgers? How did your classmates feel about the war? Do you recall?

TS: No, I don't have any recollection.

KP: Did your father have any thoughts about the war, since he had served in World War I?

TS: Well, all I remember my father saying is, ... "Beware of the Russian bear." That was one of his favorite sayings, that Russia was the big problem, [and it] would be the big problem, as it turned out, well, I think only because we made it a big problem then, and we still have this fear of Communism, and I think we worked harder to destroy that than anything else.

KP: You got married when you were a junior.

TS: I got married in August of 1941.

KP: Were many of your classmates married at the time?

TS: I don't think so. I don't think so.

KP: How did you meet your wife?

TS: Well, I told you, at the junior college.

KP: You met your wife at the junior college in Perth Amboy.

TS: Yes. I commuted from Rutgers to my home, which was only a couple of blocks away from the high school, where the junior college was located, and, for recreation, ... I'd decided on some courses that I was interested in, I'd go over in the evening, and they had a recreation room, and I liked playing Ping-Pong, and there were several girls down there and fellows, and I got in with the group, ... and I dated another girl a couple of times who she was running with, and they kind of had a rivalry, and it wasn't going to be a permanent thing, but, my wife dated me, and we enjoyed one another's company, and it continued. Now, ... we dated [for] about three years before we got married, two-and-a-half years, something like that.

KP: Were you waiting for graduation?

TS: Yes, you know, we had a baby coming, so, we got married.

KP: You mentioned that the junior college that your wife attended was founded by the WPA.

TS: Yes.

KP: How was this received by the community of Perth Amboy?

TS: Great. I think everybody thought it was a good idea. School was available, it was the old high school, and people came from all over.

KP: How much was tuition there?

TS: Nothing.

KP: Anyone could take courses?

TS: Yes. If there was a charge, it was very nominal. ... They would call it a charge.

KP: Were most of the students there traditional students or did the college attract a lot of older people?

TS: Well, there were some people that were older. ... I remember, one of my Rutgers classmates, Joe Horvath, ... he was going to go to school when he first graduated from high school, but, he [had] a scholarship to another college and couldn't pass the physical, an athletic scholarship, and they rejected him. So, he couldn't afford to pay for college, so, he didn't go. So, he went to this college, and he applied to Rutgers several years later and got in some advanced standing, I mean, he got a year's credit or something, and he played football for Rutgers and was their star center outfielder, and [he had] not enough trouble passing the physical, if he ever took one. I think he avoided the physical. He was a chem major, became manager of a Buffalo plant for a large chemical company and managed their baseball team and played with them up there, yet, he was rejected. He was actually at Villanova for ...

KP: On an athletic scholarship?

TS: Yes.

KP: What was the problem with his physical?

TS: Well, the doctor that examined [him] said that he had heart murmurs, and so, he wouldn't pass him. He's still living.

KP: The murmurs, obviously, did not injure him.

TS: No. It was the same thing with me, you know. Doctors rejected me when I went to work for ASARCO, said I had a hernia, and, fortunately, I knew the personnel manager personally, I had worked for him in the YMCA, and I explained to him that I had relaxed (inguinal?) rings, but, some doctors are reluctant to pass you, because they feel you have the tendency to develop a hernia. So, he said, "Okay, the doctor's very [careful]. Because they hire a lot of people, he doesn't know what kind of work you're going to do. A lot of men do lifting, and so forth, and they reject borderline cases," but, I never had a hernia until after I retired, and I developed a hernia when I was moving.

KP: Did you notice any other effects of the WPA in Perth Amboy?

TS: Well, they had murals done in the high school by artists. They were beautiful and I saw a reference to that, recently, in some other states that were going to restore the murals that had been done during the WPA days. You'd come past a lot of different arts that they supported, 'cause there wasn't money then from private sources for support. The government put artists and writers, and so forth, to work.

KP: Did you ever go to any of the WPA plays or symphonies?

TS: No, didn't have the money to do it, plus, I'm against crowds. I hate going into crowded places.

KP: Did you go into New York often?

TS: Oh, yes, I went to New York. My mother was in the hospital in New York quite a bit and I walked, every year, up every avenue, from the Battery up to 60th Street, one way [or] another. I love New York. ... I always used to go into the Garden, to dog shows, basketball games, hockey games, track meets, shows, the Paramount, Radio City. Yes, we did quite a bit.

KP: Before the war, had you traveled very much?

TS: Before ... World War II?

KP: Yes.

TS: No.

KP: What was the furthest west you had traveled?

TS: Delaware Water Gap, I guess. I'd gone to Newport several times before we were married. ... My father had a sister-in-law or something that lived in Newport and her family, I guess it was brother-in-law and ... his family, considered themselves relatives, close relatives, and they had a very close relationship. So, we visited Newport quite frequently in the summertime.

KP: Did you ever walk by the mansions?

TS: Yes, "The Scenic Walk Along The Cliff," walk, I think it's called. We've been up there since then. My aunt, ... really not my aunt, but, I call her my aunt, she worked in several of the mansions, even just before her death. She was diabetic and had both legs taken off. The family she worked for put a new washing machine and dryer in her home and sent a chauffeur with the clothes she did, just to keep her going.

KP: Did you ever get inside any of those mansions while you were growing up?

TS: I was on the grounds. I remember having a clambake on an estate, but, not in the house, on the beach. One of my relatives knew the garden[er]. We had access to the beach, and I could remember them just going out and digging up the clams and catching crabs, and my father'd give one [of] my cousins two dollars and [say], "Go down to the wharf and get a whole bag of short lobsters," you know. My aunt was a great cook. She made her own mayonnaise and all that stuff, and we'd have crab cakes, and fritters, and clam fritters, and corn fritters, and it was great going up there, and they had nothing.

KP: Did you ever travel south of New Jersey, into Delaware, Maryland, or even further south?

TS: In those days?

KP: Yes.

TS: No, Asbury Park was the furthest south that I remember. We took the train. We didn't have a car, you know, until I bought a car. Why, we never had a telephone until after I was married. My parents didn't have a telephone. ...

-----END OF TAPE ONE, SIDE ONE-----

KP: You took some courses at Brooklyn Polytech.

TS: Non-ferrous metallurgy.

KP: When did you take these courses?

TS: During the war. It was when I was working at Raritan Copper, which was 1943.

KP: How did you get into New York?

TS: Train. Yes, it was very inexpensive, train, subway. Subway was still a nickel. The train wasn't very expensive.

KP: You had tried to enlist when the war started.

TS: In special programs, V-7, V-5.

KP: Were you declined from both?

TS: Yes. Well, ... when I went to work for Metal and Thermit, I had a deferment for essential work and that held until almost near the end of the war. ... Plus, I had two children and that also led to that classification. Then, they decided that I should be drafted, so, I went to Newark and, in the regular process, ... I was classified as being fit for limited duty. Since I had only been [assigned to] limited duty and I was doing essential work anyway, they put me back in the deferred classification. So, I didn't go and that was mainly because of my knee. I can't do a full knee bend and, in those days, knee operations weren't like they are today. They were very tricky things, so, you didn't have a knee operation unless you actually needed it.

KP: How had you injured your knee?

TS: Playing basketball at the YMCA. I just fell on it. I was in bed for three months, I think, had water on the knee.

KP: Did you ever have knee surgery?

TS: No, no, no, it's no problem now. I have arthritis now. The only surgery I've ever had, I wound up with a double-double hernia. I went in for a single hernia operation and the surgeon said I had four hernias, two on each side. So, I just was in overnight.

KP: You had this operation after you retired.

TS: Yes.

KP: You hurt yourself while moving.

TS: Yes, I'm sure it was. Well, we had a large home, and we had an adult son who lived with us, and I told him he had to move out when we were going to move to the retirement village. So, we furnished his apartment, and then, my oldest son, he could use some furniture, so, we carried a lot of furniture up there, and we bought all new furniture for our new home. So, we did all the moving ourselves. You could do it in those days. Today, I wouldn't try it. That's twelve years ago, eleven years ago. I've been retired and I was sixty-one when I retired. We were in Europe and Denmark on a vacation. I came back on Monday morning, my leader said, "The manager wants to see you in his office." So, I walked in, he said, "Here, read this. It's your resignation." I said, "Why?" He said, "Well, everybody over sixty has to retire, managers and all." So, I said, "Suppose you're not interested?" He said, "Well, you can stay on, but, you won't get all the benefits. You might lose 'em." It wasn't a bad deal, so, we signed it. I was sixty-one, that was in 1982, May. So, I've been retired since then.

KP: Do you miss your work?

TS: Well, I miss working sometimes. You know, you have some standing when you go to work. People depend on you for information and to do things. At home, you don't have any standing.

KP: At the beginning of the interview, you mentioned that you had worked in your father's plant for a year.

TS: Yes.

KP: What were your responsibilities in that plant?

TS: I was a control chemist in the laboratory, large copper refinery, one of the largest in the world at that time.

KP: Did you supervise anyone?

TS: No, no, well, a lab assistant, if you call that supervision. I had an assistant when I worked a certain job. He and I worked at night. ... It was a really repetitious job. Everybody had to take a turn at it and you had a young [man], just a young boy actually, somebody eighteen years old, just old enough to do things that he's told to do, so, I did that. Otherwise, in those days, I didn't. ... I'd run the lab several times when my boss was sick. ...

KP: Were you separate from the production line operation?

TS: Yes.

KP: You performed a very specific task, lab work.

TS: Lab work, yes, in those days, yes.

KP: How did the war affect that plant? Was it unionized before the war?

TS: Well, that plant had a company union, and I got elected to the Labor Management Board, because they thought they were voting for my father, and we had meetings every month to discuss relations in the plant. They didn't have any labor problems as such, but, just general problems. There were a few things, like the pensioners. You'd see people come in, hobbling along, a man being assisted by his wife, come to collect his monthly pension check, and I asked, "Why don't the men get the check mailed to them?" "Well, they haven't asked." I said, "Have you told them that they could?" "No." I said, "Well, how about telling them that they don't have to come [down here], you're gonna mail them ... the check?" They said, "No problem." I said, "Well, let's do it." So, they did. Then, we used to have to go over and stand in line to collect the check. Now, the law says that you have to provide a facility to cash the check and the time [to do so]. So, they say, "Okay, this was going on anyway. At eleven-thirty, instead of twelve o'clock,

on payday, you can go over, and stand in line, and get your check,” but, the people at the end of the line, they didn’t get their check until twelve o’clock, because the line was so long that they didn’t really get any time on the company [to] get their check. So, I had that changed, too, and they were all upset. They said, “Oh, we’re gonna lose the half an hour.” I said, “You’re not gonna lose the half hour. That’s the law,” and the company sent the checks over in a group and let the leader in each group hand out the checks.

KP: Which was better than waiting in a long line.

TS: Plus, you stood out in the rain, if [it] was raining. There was just a window in the wall and no shelter or anything, wintertime, cold. They had a lot of little things like that. So, I took part ... [in] that.

KP: How many workers from the plant left to go into the service? Did you know any of them?

TS: Well, I got my job because the fellow ... [that] spent about a month with me ... was going away, into the Air Force, and I never heard from him again, but, there were several that left while I was there, single men. I recall one man that came, and we had him for dinner, and he stayed until about three o’clock in the morning, and I had to go to work the next day, and my wife was sitting up, and she was so angry at me, inviting him and not sending him off, but, the poor guy was going off to war. We’d never know whether we’d ever see him again. We never did, anyway, but, not because he got killed or anything, but, he went off to other fields.

KP: Who replaced these single men?

TS: Women, women. We had a couple of women work[ers], young women.

KP: Both on the line and in the lab?

TS: ... I’m only familiar with the lab. At the time, it was mostly older men, so, there wasn’t too much of a problem.

KP: However, in the lab, did you have women replacement workers?

TS: Yes, yes.

KP: How big was the lab that you worked in?

TS: People-wise?

KP: Yes.

TS: [There] must have been about thirty, thirty-five [people].

KP: By the time you left, how many were women?

TS: I think four.

KP: If not for the war, would there have been any women working there?

TS: I don't think so, no, except in the office, but, I'm not counting those women, secretaries. That was standard.

KP: Why did you leave the Anaconda plant?

TS: Well, the working conditions, mostly. Ventilation was very poor, [the] change of equipment was slow. For instance, they had burettes in the storeroom, but, they wouldn't take [them] out, because they'd have to charge it against the cost for that month, and we'd have to wait in line and get a burette. Somebody else would be using it to make a titration. Plus, ... the width of this table, the end of a desk with a drawer, that was my working space. We had no H₂S room, had a little closet and you'd have to go in [to] use H₂S. It was very poorly ventilated. Working conditions were very poor. I was okay. I started for \$125. I was the first one ever to get \$125 a month and, in a year-and-a-half, I was making \$180. So, that wasn't bad. There was a job advertised in the research department at Metal and Thermit in Rahway, had a new, modern building with all the latest equipment, needed a man. I [was] qualified, but, I couldn't get a release, so, they had to go to the War Labor Board, and they got a release for me on the basis that I would work forty-eight hours a week, and I was only working forty hours a week at the Copper Works, so, I think that means, of course, there's some politics probably involved in it. ... So, I went to work there, but, they were mean. They told me they were gonna increase my salary and they didn't. They said, "You're gonna get the same salary, but, you'll be working eight hours extra, so, you're making more money."

KP: You ended up working forty-eight hours a week during the war.

TS: Yes, yes, all through the war, and then, they raised my salary to 200 dollars a month, and they took away the time-and-a-half, and gave me twenty percent extra. So, I made 240 a month, for forty-eight hours, and I worked that way until I left, and I left on unfriendly terms. We also got a month's bonus at the end of each year and, if you worked all year, you'd get the bonus. Well, I got a job with ASARCO, American Smelting [and] Refining, to start January 1st. Now, I told Metal and Thermit on December the 15th that I was leaving January the 1st, and the man that was hiring me at American Smelting and Refining calls Metal and Thermit and asks them if my leaving is harming the company, and they said, "Yes," they're gonna be short-handed. He said, "Well, I won't hire him then." So, the man that's hiring me at Metal and Thermit says, "I could have held up your change of job, because the man that's hiring me at American Smelting says, 'I won't hire him if it's gonna harm you.'" So, the man at Metal and Thermit calls me and says, "I could stop you from getting your job," and I said, "No, you won't, 'cause I'm gonna quit anyway," and I said, "You can be sued for this."

KP: Was this during the war or after the war?

TS: The war had ended. They were very, very bad, and so, I left under a cloud, so to speak. The relationship wasn't very good, but, I got my bonus, and it was perfectly legal, because I got paid every two weeks, which was the sense of relief. These companies do whatever they feel like. Now, I worked for many years for ASARCO on a monthly salary and they paid us once a month, which was completely illegal, but, it didn't matter, because I adjusted to living that way. Finally, one auditor came along and said, "You people are breaking the law. You have to pay people every two weeks, you know, twice a month," so, they changed it. They did it for twenty years the other way, [during the time] that I worked there.

KP: You switched plants during the war. What was the second plant that you worked in?

TS: Metal and Thermit.

KP: What did they produce?

TS: Well, they were in the war production. They were making thermit for Thermit Bombs, the company. They were de-tinning tin cans.

KP: They actually made something out of the scrap and tin cans that people donated.

TS: Well, they put the [scrap] ... in an alkaline solution, and dissolved the tin off the iron steel cans, and then, plated out the tin from the solution, and made money on it, and then, they went into making chemicals, to make more money, because they can charge you more for a chemical tin compound than they can for plain tin, even though it's a good price. Then, they made welding rods, nurex welding rods. ... We developed, the company, not me, but, I was part of the team, but, the company developed underwater welding rods, which were very important during the war. [If] a ship got a hole in [it] from the torpedo, they could just take a steel plate and weld it, the steel plate, ... right on the side cover of the hull. [It] made a good, temporary, which turned out to be a quite long-lasting, patch, and the big advantage was that they could do it with acetylene, actually, an acetylene torch, but, that required a lot of skill, to do the welding, but, the electric welding rod, all you need is to hold it against the metal and it works quite well. It doesn't require as much skill. Plus, they also developed an underwater cutting rod, electric, same idea, also, replacing oxy acetylene.

KP: During the war, that was crucial.

TS: Yes, [for] cleaning out bridges that have been bombed down, and sabotaged, or otherwise.

KP: The Metal and Thermit facility was a new plant and it was located in Perth Amboy.

TS: No, in Rahway.

KP: Rahway?

TS: Right on the Rahway line. It was actually Woodbridge. It's gone now. The building's still there, but, they've gone. They've been sold a couple of times and they dismantled the research department.

KP: Okay, but, it was a new plant. Did they hire an all-new work force?

TS: ... Most people have development departments, which is like a research department, and they gather these people, and there ... were a lot of young people that they just gathered together there. ... [They] hired a college professor to be the director of research, Dr. Lincoln (T. Work?). His scientific work was done on particle size. He was ... one of the world's leading experts on particle size. The reason they used particle size in their work, it was just one small phase of the whole thing, but, he was actually a very poor administrator. He was involved in battles with one of the vice-presidents constantly. He finally got fired after I left.

KP: You were part of the research department at Metal and Thermit?

TS: Yes, yes.

KP: What were your responsibilities?

TS: Analytical chemist, analyzing. I did a lot of analyzing of competitor's welding rods, to find out what they were putting in [them], and, principally, ... Lincoln is still the leading welding rod manufacturer. They make the highest grade rods at the cheapest price.

KP: Were they doing that at the time?

TS: Yes, and Nurex was trying to compete with them. They'd buy their rods, and take 'em apart, and try to duplicate 'em. ... Lincoln never patented anything, 'cause that disclosed the works. Now, you can find out what's in anything, ... and then, Thermit (festing?) tried to improve the thermit, the thermite, as some people say. Thermit is also used for welding railroad track, make continuous [tracks]. I think it's been replaced by electrical butt welding mountings, to eliminate those joints. You hear that on the train when you ride.

KP: Yes, it is not so smooth.

TS: But, they were making it, principally, for the Market Tunnel at that time, ... railroad tunnel, in Utah, several miles long.

KP: How big was the research department at your plant?

TS: I think there were about sixty people, altogether.

KP: Who replaced the director of research?

TS: I don't know, I don't know. We had some good men there, one named Dr. Richter, and Dr. Johnson, (Lonheim?), Fred (Lonheim?), Dr. (Lonheim?). He had a patent ... on a fast tin-plating bath. Now, it's widely used in the industry, to plate tin and metal.

KP: Were there any women in the research department?

TS: We had women in the research department, not in the real technical [areas]. There was, if I remember, some assistants, but, all the chemists and engineers were men at that time. Near the end, we hired, I remember, two girls, young ladies, I shouldn't say girls, young ladies from Rutgers, one of whom was quite active in later years. You may have known her, Adrienne (Scotchbrook?) Anderson.

KP: The name sounds familiar.

TS: She was on the board. I think she was chairman of the board. She died a year or two ago. She worked there as a chemist near the end of the war. They were starting to make this anti-fowling agent, (diabuty?) tin compounds, which were used very widely in anti-fowling paints, and the Marines used it, but, discontinued it, because they found it was toxic to marine life. There were two girls at the time.

KP: Was there any resistance to women being employed as chemists in the 1940s?

TS: Well, I don't think women as chemists, I think women in general, because of their poor attendance record, supposedly, especially women who had families.

KP: You were raising a family during the war.

TS: I had three boys.

KP: You were also working forty-eight hours a week.

TS: I worked more than that. I had three jobs. I worked a regular day job, I worked in the car barn, parking buses at night, washing them, sweeping them out, then, on Saturday, I worked at Reynolds Department Store, selling haberdasher.

KP: Where was the Reynolds Department Store located?

TS: In Perth Amboy. It was a big, big store, three floors.

KP: You worked three jobs during the war.

TS: Yes, ... I had to.

KP: Where did you live during the war?

TS: I lived in Perth Amboy, in a cold-water flat, for ten years, a long time, burned, what do you call it? fuel oil, like diesel oil, number two heating oil. [We] had a space heater in the living room and a stove in the kitchen, a little, black stove in the kitchen. When we first got married, we had an ice box, couldn't buy a refrigerator, went all over [to] the Salvation Army stores. All kinds of second-hand stores had ice boxes, but, no refrigerators, not even a second-hand refrigerator. I spent a couple of days [looking], my father driving me around, when, finally, we went in this confectionery store where we hung out, and the owner of a large appliance chain of stores, Jersey Tire, in those days, was a good friend of my father, and [he] said, "Where've you been?" He said, "Oh, we've been looking to buy a refrigerator," and he said, "Who wants a refrigerator?" He said, "My son." He said, "We've got a whole warehouse full of 'em." He said, "You do?" He said, "Yes, you want one?" He said, "Yes." He said, "Well, tell your son to go down to the store and see my brother and he'll arrange to get you a refrigerator." So, I did. I went and saw Leo, [who] was his brother. He said, "I can't show you the refrigerator. We don't have any in the store. We have 'em in the warehouse." ... He said, "I'll show you a picture of the refrigerators, I have two, and I'll tell you how much they are. It'll be list price, and you pick out one, and don't tell anybody where you got it, and we'll deliver it." So, I bought it. It was a Kelvinator, 180 something dollars, and, the funny part of it, one of my friends wanted to buy a refrigerator, and he asked me where I got it. I wouldn't tell him, but, somebody recognized the truck driver, and knew the truck driver, and knew he worked for Jersey Tire. So, they went down and demanded a refrigerator, and they got one, too, but, they had a whole warehouse full of refrigerators just put aside that they probably sold at inflated prices.

KP: However, you got yours at the list price.

TS: Yes, yes, which was very good. It was an excellent refrigerator. It was still running thirty years later, when we left it in the house that we moved [out of].

KP: When you say you had a cold-water flat, did you have to heat your water?

TS: Yes. We had one of those swing arms. I think that's what they call 'em, the coil. You ... light the gas under the thing. It was heated, somewhat, by it, and, in the wintertime, by the old, black kitchen stove, which had these space heaters in 'em, and, if you wanted to take a bath, you heated the water up and made sure you shut it off, so you didn't blow up the house.

KP: How tight was housing in Perth Amboy during the war?

TS: It was very tight. It was rent control. We paid twenty-five dollars a month rent the whole time, nine years, and then, the landlord, near the end of the ten years that we were there, ... got permission to raise the rent to thirty-five dollars, and he came to collect it, and I gave him the thirty-five dollars, a check, and he came back the next day and said, "You're the only one that would pay." It was a four family house. "You're the only one that paid it and I don't think it's fair to collect it from you." ... There was some technicality in the wording of the notice that

wasn't legal, so, a couple of months later, he came back and said, "I can take the thirty-five now. Everybody has to pay it." So, that was ... these four rooms, all in a row. They also called 'em railroad flats. It was nice and clean, all nice neighbors. It was adjacent to a large, open space, and there were garages in the back that were rented out, but, we lived there for ten years. Then, we bought a house in Edison for 7,000 dollars.

KP: You were really moving out to a suburb of Edison.

TS: Yes, yes, Ruyoh Park, Clara Barton section. They were rental housing. The owner was selling 'em. They were put up during the war under some program as rental housing and one of the men I worked with lived in one half. They were duplexes. He was living in one half, and he was worried about the fellow on the other side, [who] was vice-president of (Connolen's?) Paint Company, and he was building a large home, and he was worried about who his neighbor would be on the side, so, I bought the other half. It was good. It was a good, good house.

KP: How long did you stay there?

TS: Seven years, I think. Then, ... they were building new houses and I bought a new house. We were there twenty-five years.

KP: You mentioned on your survey that you had been an air raid warden. How long did you serve as an air raid warden?

TS: During the whole war. Yes, I was an air raid warden. I lectured about poison gas and chemical warfare.

KP: In 1942 and 1943, did you really consider air raids to be a legitimate threat?

TS: Well, they handed out gas masks to all the people, rudimentary gas masks, ... so, there must have been some reality to the chance that we would have a gas attack.

KP: Did they give gas masks to everyone in Perth Amboy or just the air raid wardens?

TS: Well, I had one. I think my wife had one. I don't know. I don't think we had any for the children. 'Course, we were close to the city. We had to dim the lighting and use dark shades at night, so the light didn't shine out.

KP: What about your cars? Were they blacked out?

TS: Well, the gas was rationed, so, I didn't use a car very much at all. The East Coast was all rationed at that time. I remember my parents going on vacation and they were going to Florida, which was all along the coast, which [was] in a rationed area. They drove 200 miles inland, and they can buy gas [there], and then, [they] drove down.

KP: Rationing was not as strict the further west you traveled.

TS: I think it was a 200 mile area, ... along the coast, that was rationed. That's where most of the people lived, anyway, at that time.

KP: What changes, either in your plant, or Perth Amboy, or in general, did you see as a result of the war?

TS: Well, just a lack of young men, single, young men. They were mostly all gone. All my friends, single friends, were all gone.

KP: Would you say you felt alone in that sense?

TS: Well, I had a family, so, it didn't affect me, and I was working constantly, so, I wasn't affected by it, and the same thing with the rationing. Now, there was plenty of food. We had butchers that'd say, "You want a steak?" There was no problem. They'd sell you a steak without requiring a rationing stamp for it. You didn't ask for it all the time. You could get it very easily, if you were reasonable, and sugar and all those other things. We had young children, and the doctor said, "Do you give them canned foods?" and I said, "Well, it's kinda tough, buying it with the rationing books." He said, "Oh, I can write you stamps. How many stamps you want?" I said, "I don't know. How many [do] I need?" He said, "How 'bout 20,000?" So, he wrote out a subscription for 20,000 stamps. I went down to the rationing office, got 20,000 stamps, and we could get anything we wanted. ...

KP: Rationing really did not hurt you.

TS: Didn't hurt us at all, no. ... We never used too much sugar. I remember trading sugar for coffee, or something like that. So, it wasn't really a problem.

KP: During the war, did you do any traveling?

TS: No.

KP: What about work related trips?

TS: No, I didn't travel in those days. I didn't start traveling until I worked for American Smelting. The first trip I made was to Nicaragua, ... for three months, in a jungle in Nicaragua in a gold mine.

KP: When did you make this trip?

TS: In the early 1950s. [It was] the first time I flew on a regular passenger plane, an old Constellation. I still remember the wings flapping.

KP: What was going to Nicaragua like?

TS: It was interesting, exciting, and I got diarrhea, dysentery, quite badly while I was there and on the way home. Conditions in Nicaragua were very unhygienic. You could see bloody sputums all the time when you took a walk. In fact, most people walking would cover their [mouths], 'cause the roads were dirt roads and they were dusty, 'cause that's where the bacteria [got] on them. That's why they covered their nose and mouth with a handkerchief, but, the company had a gold mine there, in the days when gold was thirty dollars an ounce. They operated it profitably. It's called "ten dollars rock," a third of an ounce of gold in every ... rock. They made a profit out of it, 'cause they paid the men a dollar a day to work in the mine. There were no pollution controls. They just dumped things. Spent cyanide, they just dumped the spent cyanide in the river. [It] killed all the fish for several miles and dissipated. [I] bet ... [they] still do it today. They've taken over the mines, ... and then, the Sandinistas came in, and then, Nicaragua took over the gold mine, that particular gold mine.

KP: The trip left a distinct impression on you.

TS: Yes, things are very poor in Nicaragua

KP: Do you have any regrets that you did not serve in the military during the war?

TS: Not really, not really. My sons have all served. ...

KP: How did you feel about your sons serving in the military?

TS: Well, we were a little worried during the Vietnam War, when my middle boy was going to be drafted. So, he joined the Air Force, so he probably wouldn't be in Vietnam, and he was in Vietnam within three months. He was supposed to go to San Antonio, but, they had a meningitis epidemic, and they sent him to Amarillo, which was a temporary base for trainees. From Amarillo, he was sent to Travis Air Force, ... near San Francisco, in California, and, the next thing we know, he was on his way to Vietnam. We drove out to spend the week with him before he went, but, he served at Da Nang and (Chu Lai?), which were active air bases. He was a passenger traffic agent at the airport, and he was safe, relatively safe, although they had to lay fire from time to time when they were attacked at the base. Spent the year there, got to be a sergeant, and he spent two years in Tucson, after the war, and he came home. It benefited him, because it helped his total life experience and [he] got a degree from Edison College. Are you familiar with Edison College?

KP: Is it in Middlesex County?

TS: No.

KP: No, I am not.

TS: It's Edison College. It's a ... non-matriculated [college], and ... he worked in the laboratory, 'til it closed down, where I worked, and he's been active in Legion work, still active. He's a bachelor and I think it's been a good experience for him, although we were a little worried while he was in Vietnam. My oldest boy's been in, served in the National Guard for twenty-six or twenty-seven years, retired as a lieutenant colonel, and that's been a beneficial experience, and we've been proud of him, and the youngest boy, he's a musician. He served at Fort Dix for three years in the post band and he came out as a sergeant. [He] played for all the military events, paraded all over the East Coast here, played for the generals' parties, and sang with the quartet that entertained at all [of] the generals' parties and a lot of influential people. It was a good experience.

KP: Your sons are quite exceptional. Most of the children of the people I have interviewed did not serve in the military.

TS: Well, I think people try to avoid it now. We didn't actively try [to] avoid the service. My son, ... they could've gotten him to serve six months with the National Guard, and retire, and that would've been it, and he decided to make a career [out of it] and become an officer.

KP: Also, your middle son stayed in for an extra two years after he had served a one year tour of duty in Vietnam.

TS: Well, he enlisted ... for three years, yes, [you] have to serve for three years. [If] you're drafted, then, you ... come [back after] one year.

KP: Did your wife ever work outside of the home?

TS: Not since we've been married. ... I didn't want her to

KP: Was that a result of your own experience growing up?

TS: Well, I felt, and still feel, that the mother should be home with the young children. The money that she could bring in would be not that much help, so, ... I think it was worth more that I have her home, and I think it's paid off.

KP: Were any of your children old enough to go to school during the war itself?

TS: No. Ted was born in '42, the oldest one, so, even Gary, then, was four, that would be '47. I think the war was over then.

KP: After leaving Metal and Thermit, which company did you go to next?

TS: American Smelting Refining.

KP: How long did you stay with them?

TS: Thirty-five-and-a-half years.

KP: In the post-war period, what would you say were the key changes in the industries and research departments that you worked in?

TS: Well, the electronic devices for analysis were changing, came into use. [They were] labor saving, plus, greater accuracy. It's brought about [by] all this emphasis on pollution and analysis [being] so accurate, and [being] so supposedly accurate, anyways. ... It's so minute, it can detect such trace amounts, that it's getting everybody crazy, and then, the government says that [it] should not detect any amount of mercury, for instance. Now, they can detect tenths of parts per billion which, it's so small, you can't imagine. It's almost a few atoms only and it's ridiculous.

KP: Measurement has changed dramatically since you started out.

TS: Yes. It's been refined [through] ... spectrographs and mass spectrographs.

KP: How were you able to keep up with the changes in technology?

TS: By reading, American Chemical Society, American Institute of Chemists, a number of spectrographic societies, attending seminars.

KP: Did you ever regret that you did not earn a post-graduate degree?

TS: Yes, because it ... made a big difference in salary. I mean, I finished as a, official title was, research associate, which is equivalent to a senior research chemist, and the company only ever made two in that position, but, I know my salary was less than a lot of Ph.D.s, and I knew [I] was doing Ph.D. quality work. I didn't make the Ph.D. salary.

KP: What kept you from going back to school? Was it the fact that you had a young family to raise?

TS: Well, I didn't realize how important it was at that time. I could've done it, I'm sure, if I'd realized how important it was.

KP: Do you remember any of your classmates who did not make it home from the war?

TS: One of my closest friends got killed at Bastogne. Was that one of the big battles? ... We rode together for quite a long time from Perth Amboy, Walter Goncharuk. He was a journalism student. In fact, I was thinking about him the other day ... [with] Polowetzky. He was a good friend of his. ... Was that the name, my memory's getting bad, the AP man?

KP: Yes.

TS: He was in our class. Well, Walt graduated ...

-----END OF TAPE ONE, SIDE TWO-----

TS: ... [He entered] the medical corps, decided he wanted to be an officer, so, he went to officer's training, became a second lieutenant, next month or so, was shipped overseas and got killed almost immediately, very sad, and his family had his body brought home, when they were doing that after the war. ... I remember, his fiancée was there. It was all very sad. That's the only one that I was really close to, but, quite a few of my classmates got killed during the war, high school, and some got killed on Pearl Harbor Day. Naval Reserve was activated from Perth Amboy.

KP: Perth Amboy was a big Navy town.

TS: Yes, but, it's just been all closed out now, the Naval Reserve Armory, and they had a naval vessel there all during the years we lived in Perth Amboy, and just a few years back, then, we moved back there, and there was a mine sweeper, but, they took that away, and they're selling the property and everything else, but, it's all finished. It's all changed, the whole waterfront. It used to be one of the busiest waterways in the world, principally 'cause twenty-five million tons of coal traveled up the Kill every year, and dumping to, say, Pennsylvania Railroad in South Amboy, Reading Railroad in Reading, and Lehigh Valley in Perth Amboy, twenty-five million tons of coal a year, and it's all gone.

KP: You remember Perth Amboy as a very busy port.

TS: Busy port and mercantile center, yes, one of the best shopping areas in the whole East Coast. They got more money per rent in stores than almost any other place in the country. ...

KP: There was also a naval base there.

TS: Yes.

KP: Did the sailors get into town often?

TS: Well, it wasn't that kind of a naval base. It was a reserve [base].

KP: A reserve base?

TS: Yes, no, it wasn't a problem. ... Sailors from the coal [ships], from barges and commercial lines, they would get into fights sometimes. Tankers coming into Sea Warren, but, that's all stopped now with the pipelines. ... [They] don't have a customs office anymore in Perth Amboy at all. [There] used to be one in the post office. I still belong to the yacht club in Perth Amboy, but, boat traffic is practically negative. A few tankers come in, but, that's all.

KP: Do you own a boat?

TS: No, I don't own a boat, no. I owned a small sailboat once, but, ... [it was] so expensive to own a large boat, I decided it wasn't worth the money. There's enough people you can sail with that are always looking for crew. I had a friend who had a nice sailboat and I could sail it on any weekend that I wanted to. That was good. [It] was a practical thing. I saved my money. Moss has a nice boat. ...

KP: Yes, I know. Tom Kindre just bought a boat.

TS: He's had a boat off and on. ...

KP: As a child of the Great Depression, were you ever afraid of not being able to find a job?

TS: I never worried about having a job, because I always had a job when I owed anyone. Talking about Botany Mills before, I sold papers at the Botany Mills gates when I was nine, ten years old. When I came to Perth Amboy, I worked in the Y to pay for my membership, ten cents an hour. I'd set pins in the Y, pick up pin money, so to speak. ... [I] always had a job. I worked in the gym. I was an instructor. Senior year, I quit the football team. I was on a Perth Amboy football team. I left it, because they weren't doing anything to me. I just went out as a senior, 'cause I was never big enough. I only weighed 145 pounds then, anyways, but, you know, I played a few games, and I had the opportunity to take this job at the YMCA, and I took it, made, I don't know, a quarter an hour, or something like that. It was money. I could have a date, could buy the little things that I wanted. I worked as a lifeguard during the summer at the beach. I taught swimming at the Y and, when I went to college, I had a weekend job at Reynolds, worked during the Christmas season. The summer I got married, I was working at the (Cellatex?) in Metuchen. I got laid off, and, around just before Thanksgiving, ... [I] went down, I got an excuse from school, I think they still do it, you can get off during the holidays, and went to work for the Christmas season. Christmas Eve, I got laid off there, Sunday. That was [when] the war started. I think that was January. I got a telegram to report to Raritan Arsenal. They had a job waiting. I worked at Raritan Arsenal from December, 1941, 'til June, 1942, [then, I] got released. That's a story I didn't tell you. They hired me to work as a storekeeper, junior storekeeper, in Raritan Arsenal, and I worked there, and I did a very good job for them. I was in the G Group materials, which was tanks, and motorized equipment, and, also, small arms. My job was, ... they got a lot of parts with the tags off of them, identifying what they were. I had an excellent memory, and I read the manual, and I could say what this is. I'd remember them, look it up, and say, "That's number So-and-So," and they would identify that. So, I worked there from four to twelve, and then, I worked a short time from twelve and eight in the morning, or eleven to seven, I don't remember which, ... and then, I got a job at the Raritan Copper Works, at Anaconda, and the Arsenal said, "You can't go. You're in the Army," so to speak. I said, "What do you mean, 'I'm in the Army?'" "Well, you were hired to be trained as a cadre for a new arsenal in Tacoma, Washington." I said, "I've never been out there. I don't wanna go out there." They said, "It's not what you wanna do, it's what the Army says you're going to do." Well, fortunately, I had

befriended a colonel who was in charge of our major, I guess it was a major, Major Ron Bell, who was a vice-president of Sun Life and activated in the service, and I spoke to him, and I said, "Look, I'm graduating from college. I'm gonna get a job as a chemist, something I've been trained for. I don't wanna go to Washington and move my family out there." So, he intervened with the Colonel and the Commandant of the Arsenal and they released me to Raritan Copper Works. Otherwise, I would've gone to work for the Army on the West Coast. So, ... I've always had a job and I've never worried about getting laid off or anything. [I've] always thought I was good enough to do a lot of things.

KP: During your senior year, you worked quite a bit.

TS: Yes, yes.

KP: How did you manage in your classes?

TS: Well, I could get by with four or five hours of sleep, and, plus, I wasn't that great a student, although I know got, I think I got, a one in psychology and I got twos in economics. ...

KP: Chemistry is a very demanding major.

TS: Well, ... the last year, ... this particular last semester, I didn't have any chemistry courses. I had a special arrangement [class], they called it "Problems in Physiology," I think it was. The work I was doing in the laboratory for the NYA, they gave me credit for [that]. ... I needed some extra credits to get the degree in biological sciences. You can work things out.

KP: Did you have any experiences with Dean Metzger?

TS: Dean Metzger, old Dean Metzger?

KP: Yes.

TS: Well, he interviewed me, in the initial interview. That's all I recall.

KP: Many people have vivid memories of him and chapel services.

TS: I always looked at him favorably, because he interviewed me in my interview to come to university before I got the state scholarship, ... and, of course, he was on the committee that selected all those people, and then, I, occasionally, needed some money, and I borrowed fifty dollars. He arranged for a fifty dollar loan, student loan, which I paid back. That's the only relationship I ever had with Dean Metzger, and his son, I didn't know, Carl Metzger.

KP: A lot of people have very distinct memories of him.

TS: He was, well, I guess, a Dutch Reform minister in the old days.

KP: Someone said he was a stern Calvinist, at least in his chapel sermons

TS: I don't remember too much about chapel. ... The thing I remember most is, Willie Demarest, who was an old, retired president of the university, addressed the convocation, and he whistled while he spoke, and a bunch of students picked up the whistling and were whistling with him, and they were really shameful. ... I recall Dean Metzger addressing the chapel, and my class got blamed for it, I think, and Ralph Schmidt got up, and he threatened everybody almost with physical violence. ...

KP: If it ever happened again.

TS: Yes. I can still remember that. He could do it, too. [laughter] Have you seen him lately?
...

KP: Yes, he is still very active. In fact, he was the second person I interviewed.

TS: Yes, he did very well, president of Beecham, or vice-president, or something.

KP: Yes, I think he was the vice-president. He is very supportive of the project. During the war, he managed a DDT plant for Merck.

TS: DDT, you know, good stuff, but, overused. They still need something like that, though. You read *Silent Spring*, I guess.

KP: Yes. Is there anything I forgot to ask you regarding the war, your experiences at Rutgers, or your post-war career?

TS: Well, during the war, I joined the Coast Guard Auxiliary, which was an official thing, but, they were going to do a lot of work, but, the war ended before I ever did anything with it. In fact, I still carry an identification [card].

KP: This is your original Coast Guard Auxiliary ID card. What was the intended role of the Coast Guard Auxiliary?

TS: Well, they were gonna guard bridges and things like that, but, it never developed until it was (envisioned for them?). I think, if things had gone on, you know, and things had got more ... hard up for men, and so forth, then, we might've gone with that, but, [things] didn't develop that way. Fortunately, that atomic bomb came along and that shortened the war considerably. Fortunately or unfortunately, I don't know. It was a good thing and a bad thing in some ways.

KP: As a scientist and a chemist, were you surprised by the dropping of the atom bomb?

TS: Oh, I knew it was being developed. See, the man I replaced at Metal and Thermit was

drafted ... through politics. He wasn't a college man at all, but, a damn good technician. My boss at Metal and Thermit was a woman, Dr. Marie Fondworth, was one of the first Ph.D. chemists, was a close friend of Dr. Furman at Princeton. She had him taken out of the Army and stationed, as an Army man, at Princeton Laboratory. He was like a (magnum?) chemist for uranium for the government, working on the Manhattan Project. Plus, on another front, I was working on molecular screens for the separation of the isotopes for the government. [We] never succeeded, but, so we knew that ... they were close to developing [the bomb], although our director of research said that, "The atomic bomb was a lot of Roosevelt boondoggling." [He was] a brilliant man, you know, ... really a good man, but, [he] just couldn't understand molecular physics. ... Our company revolutionized the copper melting business. They developed a gas furnace that melts copper almost instantly, controls the atmosphere, did away with all the holes. You know, [in] the melting and refining of copper, they used to use green trees to pole the copper and [that] has a beneficial effect of changing the refining grain structure, and so forth. They did away with all that. It used to cost several dollars a ton just for poles. [We could] do it for fifty cents a ton.

KP: Was this process developed during the war or afterwards?

TS: During and after the war. [It] didn't really come out 'til after the war that they were working on it. They could build any size furnace, they stack the copper in the middle, and, in fifteen minutes, when you're done with it, just shut it off. A regular copper reverberatory has to be on constant heat, you can never shut it off, unless it's gonna be repaired. So, that costs money, takes men to do that.

KP: Was it Metal and Thermit that developed this process?

TS: No, American Smelting, yes, Dr. Phillips and Red (Meyer?). They're great ... things. It's done all over the world.

KP: Do you think that the war accelerated the pace of technological change in the field of chemistry?

TS: Yes, I think so.

KP: Were companies more willing to take chances because of the war?

TS: Oh, I don't know. With all the research that was done for weaponry and advances in the atomic energy, and so forth, the war certainly accelerated all that. 'Course, it's all slowed down again, now, because people are against [atomic energy]. They don't understand atomic energy. They're afraid of it, but, there's a risk in everything we do. The world may stop turning tomorrow.

KP: That would be really bad for at least one half of the planet.

TS: Now, they're talking about a meteor, ... or a comet, that's headed for the Earth. (That'll be the end of that one then.?)

KP: Is there anything else that I forgot to ask?

TS: No, I don't think so. ...

KP: This concludes an interview with Theodore W. Sattur at Rutgers University in New Brunswick, New Jersey, on September 12, 1994, with Kurt Piehler. Thank you very much.

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

Reviewed by Bojan Stefanovic 3/27/00

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Reviewed by Sandra Stewart Holyoak 4/5/00

Reviewed by Greta Sattur 4/28/00