

Oral History Interview with Dr. Herbert Hellwege
(5/19/2005)

Zhang: Good morning. Today is Thursday, May 19. My name is Wenxian Zhang. I am head of Archives Special Collections. With me, Dr. Jack Lane and two students: Lily and Corey. We're going to interview Dr. Herbert Hellwege, who's a retired professor of physics—

Hellwege: —Chemistry.

Zhang: Chemistry, I'm sorry, of Rollins College. My first question, Herbert: You are from Germany, right?

Hellwege: Correct, yes.

Zhang: And where did you learn your English?

Hellwege: I learned it in high school.

Zhang: High school.

Hellwege: Yes. The high school I went to, it was mandatory to learn two modern languages and one classical language. So I selected to start with English then I had French and Latin.

Zhang: Great. So could you share with us some of your family background?

Hellwege: My father was a teacher in a little town of about thirty-five hundred people just between Hamburg and Bremen, halfway between Hamburg and Bremen. He built a house on a property owned by my grandfather, who was a farmer next door. And most of my young life I spent on the farm until my grandfather passed away in 1931. Eh, my father later on became the principal of the public school. In Germany it's called Volksschule, which has eight grades. And from the eighth grade, students go on to vocational schools. Earlier, though, after the fourth grade, if you want to enter high school, you apply for a high school. You have to pass an examination. Only a very limited number of students enter high school because the intent was either to go into a university or advanced vocational degree. You obtained an advanced degree.

As I said, most of my young days I spent on the farm. When I was ten years old, I passed the entrance exam for a high school in a neighboring town about ten miles away. I had to commute by train with a little steam engine pulling two cars, okay, and a caboose. Every morning I left at— left the train station at 6:30 and I came back about 2:30 in the afternoon. From the train— the town was called Buxtehude, where the high school was located, from the train station I had to walk about a mile and a half before I got to the high school. Want me to continue on?

Zhang: Yes, sure.

Hellwege: Okay. The high school was rather small. The city owned high school. We had around three hundred and fifty students at the high school. The classes were small, no more than twenty, twenty-five students per class. The majority of the students would leave the high school after six years. Well, those who wanted to go on to a university stayed on for another three years. And, the last three years were predominantly, I would say, college-level type courses, okay. In Math starting, for instance, with college algebra, then calculus and— and advanced German, English of course, history. So, my class dwindled down to eight people after the initial six years, okay. And then it was divided into a mathematical/scientific branch, and the other one was, I think you would call it a philological in branch and — So we were only with four students in the math/science branch, and you can imagine the education was rather intense (laughs). Okay, so I graduated from high school—

Lane: What year was that?

Hellwege: Nineteen hundred thirty-nine. The number of years were cut short because, the Nazi regime at that time probably wanted young people into their organizations, especially into their armed forces. I had no choice. I had to— Well, services, military services were mandatory. They drafted, or you could volunteer earlier, okay, and as an applicant — as a prospect for academic education after I graduated from high school, I had the choice either to postpone my military service or immediately select that and then go on to university education. I selected the first. I made a mistake really because, '39 I first joined what is known as the, as “Arbeitsdienst”, Work Corps, for half-year which was also mandatory. Everybody had to join that. And I shoveled ditches for half a year and at the beginning of the war, since I had volunteered for the air force they immediately drafted me into the air force.

Zhang: So what do you remember when you grew up? Your childhood; do you have any memories of the Nazi government?

Hellwege: I remember a lot of things, okay. We made excursions, high school excursions. We mostly traveled by bicycle at that time, not many cars in my hometown. I remember we had two cars, you know? The doctor had a car, and I think the veterinary doctor had a car (laughs). That was it. Oh, and one realtor (laughter). Three cars, okay. So all the travel was done by train, or by bike. And as high school students, we made— in the summer we made excursions. The most memorable one was through East Prussia, which we traveled a couple of days to the Baltic from our hometown, from my school town by bicycles, staying in youth hostels. And then by ferry, over to East Prussia because it was separated through the so-called corridor, you might remember that, okay, from Poland, eh, which belonged to Poland, so that's the only way of travel which was available. And then we'd bicycle through all of East Prussia, which was a fourteen-day bicycle tour. We were a group of about I think nine, nine and the teacher. Always staying in youth hostels. And another memorable trip I made on my own— It was customary, at that time, that as a teenager you would travel, okay, but only by bike. And stayed in youth hostels. Just to give an example of how cheap it was, a youth hostel night

lodging cost twenty-five in German pennies, which was the equivalent of about four or five cents American at that time (laughter). And you got a meal for about the same amount, you know, a soup or something like that. So, and uh, I went by bike to Frankfurt and the youth hostel in Frankfurt is right on the Main River. I watched a couple of people putting their fold boats together on the Main River there, and one of the guys, he got me into conversation and asked me what I had planned and so on, and then he invited me to come along in his kayak, you know. On the Rhine River. First down the Main, and then on the Rhine River all the way to Düsseldorf. And this guy turned out to be a very interesting man about, I would say, in the forties at that time. I was about sixteen, seventeen. And he was a professional photographer for magazines and he knew every little castle and every little cathedral and every cloister along the Rhine. And I got an education, which you (laughs), one could not get anywhere else, you know? And we tent camped on the little islands along the Rhine and I had shipped my bicycle ahead with the railroad, picked it up in Düsseldorf, and bicycled home from there. I became friends with this man. And he visited my parents several times and me. And unfortunately, during the war, I lost contact, and most likely he may have been killed, or killed in one of the bomb raids on Frankfurt. He was from Frankfurt.

Lane: So you didn't start college until after the war?

Hellwege: No, no. I served in the war from '39 until 1945.

Zhang: You mentioned that you're drafted in the German air force. Do you feel comfortable about talking about (talking at the same time) that part of the experience?

Hellwege: (talking at the same time) Oh yes, yes.

That's no problem. Since I had chosen the air force voluntarily, okay, I had applied for pilot training but I could not to do that because I didn't want to commit myself for three and half years. It was a minimum we had to do for pilot training. And so they stuck me into a mechanic school and I learned how to become an airplane mechanic. And I served with an interceptor fighter squadron beginning 1940.

My first involvement in the war was the invasion of Norway, which started on April 9, I think, 1940. And, uh, well I had some interesting experiences. They flew us into Norway and stayed in Stavanger where our interceptor fighter squadron was based and we got shelled by the British fleet there. They moved up the coast and shelled us for several days until we got some bomber squadrons in and they scared them away. Then later on, we were involved in the British invasion of Norway. They tried to get Narvik and the railroad from Narvik to Kiruna where the Swedish iron ore mines are, because this is the best iron ore in Europe, and they succeeded to occupy Narvik for a short time and then retracted again. And my unit flew missions there.

Well I got transferred to officer's training school in Berlin just in, when was the war over in France? I think in June, right? Yea, in June '40, okay. And I remember standing on a street in Berlin and seeing Hitler coming back from France, okay. That was my only glimpse I ever had of him, going by in a car. And, uh, this was a ten-weeks officer's training course and then I returned to my unit in Norway and at that time they flew bombing raids on the east coast of England and our bombers would fly out in a

semi-circle from Norway down into Germany on a little island Sylt and then next day back again. And our interceptor fighters, of course, would join them. In order to fly the mission, the range of our planes: only about two hours in the air, and so they needed belly and wing tanks in order to make that long trip. That made them very un-maneuverable. And I remember that day quite vividly. On August 23, our unit flew into a spitfire squadron off Hull and we lost about half of our planes, okay. Some landed in England; made crash-landing. Another guy I knew made a crash-landing on a field in Norway. And at that time, the air force flew— German air force flew the old cavalry, uh, arrangement, okay. Officers front, okay, and not all the pilots were officers. Most of them were non-commissioned officers, even privates. The lonely private flew way in the back, okay. He was the lucky man who got home because (laughter) first in line was shot down first (laughs). So, all right and after that we got pulled out and then, we were assigned to night fighter—night fighter missions. We became Night Fighter Wing I in Germany. My group was the second group and, uh, after training we were first stationed in Holland in Arnhem and later on the base in Saint-Truiden or Saint Trond north of Liège in Belgium. A base which is still used by Nato and I visited all those places four years ago and to see again where I've been.

I, uh, still I was an aircraft mechanic and then I did my second tour as an officer's candidate at the same school near Berlin. I took my first flight training in a plane, as a pilot. Now they needed pilots, okay. And they remembered that I had applied for pilot training so (laughs) they now took me into pilot training and I did my basic training during that time. But all the spots for advanced training were filled up, okay, and so I returned to my unit and got a little training there, and I think I stayed with that unit through 1941. I cannot say exactly. I should've brought some information on that. Then I got transferred to flight school near Berlin in Werneuchen and trained as a night fighter pilot and joined another wing. And we were stationed in Jueterbog near Berlin. We lived in railroad cars. Our whole supply was also in railroad freight cars. Mechanic shops were in railroad freight cars. And the idea was to move the whole unit from one air base to the other when needed. And so we moved, okay. We moved to Saint-Nazaire, France where the submarines base was, up to Peenemünde where they developed the rockets, down to southern Italy and all the way into Charkow in Russia, okay. And uh, from there I participated in the retreat. Though I should say a little bit about what we did in Russia.

The Russians, they would fly little bi-planes, okay, and then by hand drop the bombs right out of the cockpit. Oh yea. And it happened to hit our train and, not killed, but wounded quite a few people of our own around—of our own people. So, from there we retreated after the Stalingrad disaster, all the way to the Dnepropetrovks. And miraculously I got a transfer to Prague. I didn't know why; I had no idea. And my unit was transferred to Ploesti, Romania to protect the oil fields there. Well I'm proud I found out that they had selected me as an instrument pilot instructor. Why? (Laughs) I have no idea, you know? The fate of war. And, uhm, I stayed in Prague for about a year and then got transferred for single-engine fighter training on the Focke-Wulf-190 to Stolp, on the Baltic. It's near Peenemünde. And my most vivid memory from that time is: they flew us in January 1941 into Marienburg, which is in East Prussia, and there was a Focke-Wulf factory and we had to fly out the last planes, which had been built, because the Russians were already on the periphery of the base, okay. And hardly any gasoline available so they just filled the tank so that we could make it back into Germany. And I flew over the

Baltic and saw all the refugees coming across the frozen Baltic at that time. It was a very cold winter in 1945— Forty-four, forty-five. And I just made it into Kolberg Airport. While I was landing, my prop stopped, you know. I made it down. Next day I flew the plane further into Germany, so—

My last service period was in the Northern part of Denmark in Frederikshavn with a fighter unit. But we got one tank car of gasoline per week and that was not enough for even one mission for the total squadron. So most of our activities were playing bridge there. Then I was selected to do training on the new Messerschmitt 262 jet fighter, together with another group of young pilots, and I had to bring them down to Nuremberg, to a base where this training took place. But I got to Nuremberg and at that time, Patton's third army was about, I would say, forty miles west of Nuremberg. And everybody who could carry a gun was supposed to be an infantryman then. But I had some connections, okay (laughs), from my old night fighter days, from the early days and the executive officer of the fighter division stationed in Munich, I knew quite well. I called him up, I said, "I haven't had a gun in my hands since 1939, in basic training. You know I don't even know how to shoot that thing anymore. Is there any way you can get me out of here?"

And he transferred me to Northern Italy as an, uh, liaison officer between the anti-aircraft and the fighter division there. And from there I went into Milan, because they transferred to Milan. I got into the insurgency, the Italian insurgents activities. I and another officer looked for a way that our anti-aircraft regiment could retreat from there. We wanted to know whether we had passages in the Alps open at that time. Remember, it's April, okay, and they're normally closed. And on the way up there, on Lake Como I ran into a trap of Italian insurgents, partisans, we called them. You know, they captured me. Then, first into a holding prison and then to Ravenna into a prison and there I got rescued by New Zealand soldiers, you know (laughter)? Well, you can imagine we were about fifteen or sixteen men in one man's cell, you know. It just— Literally a hole in the base, that's the lavatory and uh, just a little rice to eat so everybody was hungry. And since I could speak English, I talked to a New Zealand soldier. I said, "Do you have anything to eat?" And he gave me a can of corn beef. And I was so hungry, and I tried to get that thing open and cut myself in the thumb and bleeding profusely around there! All right, and then they put me in a prisoner of war camp near Rimini on the Adriatic coast and there were about hundred thousand German prisoners there in camps of about ten thousand, ten camps I think of ten thousand prisoners. Lucky again, you know, since I could speak English, and I had made connection with one of the British— it was a British camp- I had talked to one of the British officers and then uh, through the fence, okay, and we would do that about every day, and finally they needed somebody to organize work details for unloading ships in the harbor Brindisi and these prisoners would get double ration of food, so, and I was supposed to do that. Okay, they gave me a little German jeep to travel from one camp to another and so I could organize these groups, okay, no— Always volunteers because they always like to eat a little more.

I was released in October 1945. And this is interesting again. The first three releases were made earlier. Only prisoners from the British occupation zone were chosen because the British wanted to restart the economy there. Only those people were released. The first trainloads went through the American zone. The Americans picked them right up and sent them to France and to the coalmines. And the British got

knowledge of that and stopped it completely. And then they made a deal with the French, and the next trains would be going through Austria all the way to the west of, the west border of Austria, then into the French Zone, and from there along the Rhine all the way up into the British zone and then back home.

So I got home and then I came down with diphtheria, I must've picked it up somewhere, you know. That was a pretty tough, a tough call because I was sick about three months. Well you can remember that time. No medication, no medication was available at all, you know. You had to fight it out yourself. And I recovered from that and, uh, with no heart problems. Normally you have remnants of heart disease from diphtheria like that. So I was lucky. But it took me another couple of months to get on my feet again and so, that's my war story.

Zhang: That's fascinating.

Lane: Have you told this story before? I mean— For the record?

Hellwege: I have written it down, okay, for my grandchildren, that they know, okay. In a little more detailed than I would've, that I told you here.

Zhang: Can you tell us about your college experience?

Hellwege: Yes, I can. Okay, I— After I recovered, I applied first for university education and I applied at three universities and that is, the closest is the University of Hamburg, and the University of Mainz, and at Goettingen. The reason I applied there: there was such a shortage of food that you needed some connection, okay. Near Mainz, I had a relative of mine living about fifteen miles away and they had an orchard and some land. They grew their own vegetables and they also raised a pig and so on, so I could get something to eat there. At Goettingen, friends of my parents, a former doctor in our hometown had settled there and he would've taken me in. But Hamburg was close to my home base, only thirty-five miles away; only an hour by train and the food base was my parents there. And so I got accepted to all three, so— The most prestigious one would've been Goettingen, but I selected Hamburg and the reason is simply that: food availability and close at home.

I started in the winter semester of 1946, but again it was a very cold winter. And I had a little room I rented. There are no dormitory facilities and it's not a campus like you know it from here, okay. The university buildings are spread all over the place. And I had rented a little room and it was so cold that, uh, the water I had in a little carafe in a washbasin, which I used, okay, froze over night.

Lane: In your room?

Hellwege: In my bedroom, my bedroom. And there was, of course, no heating material available so the university closed. Okay. I should mention, of course, everything was heavily bombed. The chemistry building where I later on worked had no shingles on the roof. They had tile shingles so we students put the tile shingles on (laughs), again, in order to get it going, you know? And so, I started up again in the

summer semester '46. And uh, I had no clear idea what I really wanted to major in at that point. I had a friend who was a dentist and living next door to my parents' house and he had convinced me that it would be good to study dentistry and I could enter his practice, enter his office and do dentistry there. But I couldn't get into dental school at all, you know. I was on a waiting list, and waiting and waiting. I took the basic courses for dentistry of course; science and I took mathematics and I took some more Latin. And I liked chemistry, so I continued on in chemistry; took more chemistry courses and on the side took some mineralogy, one mineralogy course. I loved crystallography, so I also took crystallography as a minor and my thesis is mostly on crystallography, okay, and the analysis of trace metals in crystals. I attended the University of Hamburg for fourteen years, no, fourteen semesters, not fourteen years. Seven years. And I wrote my doctoral thesis, it took me two years to do the research and write it from 1950 really to 1953, three— Almost two and a half years. And, uh, had my doctoral exams in July of 1953 and my thesis was accepted and I graduated.

Zhang: So what made you decide to come to the United States?

Hellwege: The reason for that is I was in love with a girl, which was really my one neighbor, our neighbor's daughter.

Lane: In your hometown?

Hellwege: In my hometown, right. And we dated right after the war started. Matter of fact, before we married, seven years passed by. And she had relatives in the United States and— An uncle of hers and their children had visited Germany in 1939, but the parents of these children were not American citizens. They tried to— They knew the war was starting, tried go back to the U.S. in July of 1939 and couldn't get any bookings on any ship at that time. The kids were born in the United States, were of course American citizens, and their daughter wanted to go back to the United States and work here, and she had relatives here. And she was still underage, about eighteen I think at that time. And her parents wanted my future wife to go along, and my wife, my future wife, applied in 1946 for an immigration visa and it took five years before her quota number was called up at that time. It was quite different then. Now you know you can just cross the border and you're in. Five years it took! So in 1951, two years before I graduated from the University of Hamburg, she went to the United States and worked in New York. Came back in 1953 after I finished and we got married and then we had discussed that earlier, I had also applied for a visa to the United States, which was a rather simple thing for me because at that time the McCarran-Walter Act, which had been passed which allowed immediate entry into the United States for natural scientists. Jack knows about that, okay. So there was really a lot of scientific people coming from Europe over to here. And I was one of them. I applied for a visa and in about a day later I had it. So my idea was to get some experience here and go back to Germany. And we came to the United States in November of nineteen hundred fifty-three and I had a job at a chemist in a food and drug research laboratory in New York City. We settled in New York City.

Lane: Private company?

Hellwege: Private company, yes. Owned by two, at that time, famous biochemists: Hach and Olsen and they'd written several textbooks. It was a good experience for me because I had never seen the type of instrumentation, which was available here. We built our own instruments in Germany and here they had modern equipment. At that time it was probably to what we have today, it like the Wrights brothers plane to a 747 (laughs). That's how much it has changed. Yes.

Zhang: So what attracted you to Rollins? What was your impression?

Hellwege: Aw, that's another interesting story, okay. I did some interesting work. I really liked it at that food research laboratory because they were a contract lab for the Food and Drug Administration. The Food and Drug Administration has no laboratories. They contract out to private labs and we were one of the referee labs. So we got all kinds of stuff to analyze. One interesting thing I did was for beer. Ballantine in New York sold beer and they had a big slogan on the billboards: "Drink Ballantine, it watches your belt line." (laughter) So the Federal Trade Commission got after them and they had to prove that they really had the lowest calorie content. And here I got the job of analyzing all the beers produced in the New York region, and that was quite a few. It was Rheingold, and Schaefer, and Ballantine, and Paps, and you name it, okay. I don't know how many breweries! So I got a case of beer every (laughs), every week. I only needed on bottle and the rest went home (laughter).

Lane: You can start your own, your own retail store!

Hellwege: Right. Well that was one of the projects. It turned out that surely Ballantine had a low calorie content, okay. Not the lowest, by the way, but the Food and— The Federal Trade Commission allowed them to continue their advertising.

And then I did some bananas for the United States Fruit Company. Well that was interesting. They try to ripen bananas, you know? They come into the country green and you want to determine the date on which you want to bring them on the market then. One way is to gas them with ethylene gas in gas chambers. And, uh, they had found out if they sprayed it with 2-4-D, which was an herbicide, that they would ripen in a couple of days. So the Food and Drug Administration had problems with that kind of thing. They wanted to have proven that that 2-4-D would not penetrate into the food proper, you know, and do harm to the people who eat it. So here I got, every day, or every other day, maybe (laughs) bananas galore! I needed only a few, and the rest went into the neighborhood where we lived. And people in the lab took them home. Well it turned out the stuff went into the fruit, okay, and they had to disband on that kind of idea.

Lane: If they hadn't been stopped, that would've been (unintelligible)

Hellwege: Oh sure, yep. Yes, absolutely. Yep. Well those are two of the things that I did.

Well now how, how—? Rollins, okay. Now having come under the Walter-McCurran Act [McCarran-Walter Immigration Act, 1952], I was registered with the State Department. And they provided lists of these people who had come into the country to industry and universities and colleges, okay. And while I was working there, I was bombarded almost weekly with offers from some company, chemical company, or from a university for a teaching position. One day I— My wife got a call from Hugh McKean. He had probably seen the list here at Rollins, okay, and he was in New York and called and it so happened I wasn't home; I was working in the lab library on a project that night. And my wife told him to call back later on, okay. I was waiting, waiting for his call and I needed some razor blades. Went to the next corner Mom and Pop store to get them. In the mean time he called again, but he left his telephone number. And I called him back and he arranged for breakfast meeting the next day in his hotel. He always stayed in the St. Regis hotel. I don't know whether you know that.

Lane: Yes, yes I know that.

Hellwege: But he invited me. Now with him was Dean French, who was dean of the college at that time. We met the next morning. I told him right away I really wasn't interested in teaching because (laughs) my father was a teacher and that was the last (laughs) thing on my mind that I ever wanted to do, you see. And, uh, well, he said, "We'd like to know you a little bit anyhow." And it turned out the breakfast room at the St. Regis was closed that day. We had to go across the street in a Schrafft's store, and that's where I got interviewed. After they grilled me for a couple of hours, Hugh McKean said, "Well, we're interested in you and would you like to come to Winter Park and look the place over?" Well, I said, "Yea!" Free flight to Florida, you know, I wouldn't say no to that (laughs).

At that time there wasn't much in Florida anyhow so I flew down to Jacksonville because direct flights into Orlando were very scarce. And then I took a Greyhound bus from Jacksonville. Coming down here, they put me up in the Casa Iberia, there. And then I met all the faculty members of the science division. Especially Paul Vestal, who took care of me, took me around town. And then I told them, "I don't know whether I could accept the position. My wife probably would not leave New York because she had all her friends in New York, and I would have to convince her." So Hugh McKean gave me a stack of slides to take back, of Winter Park (laughs), and the college here. And I should say, about three months earlier, our oldest son had been born, in May 1954. And after a discussion, Hugh McKean made me a job offer, okay. He offered me four thousand dollars a year. And that was less than what I got in New York, but on the other hand living expenses aren't quite as great here in Winter Park. And it's only for nine months and I could find another job, most likely, and make up for the short fall.

Discussed that with my wife, and the reason that I truly came down here is that we did not want to bring up our son in New York City, okay. We already saw a change in the neighborhood. We lived in a completely German section in Ridgewood. Everybody spoke German there, mostly German people, second generation, sometimes third generation, and a lot of German Jews living in that area. Well the reason was we didn't want to bring up our son because there was a migration in, mostly Puerto Rican,

and the Germans would move out of that area. And I accepted for one year with the idea that after that we'd go back to Germany, so.

Lane: And here you are.

Hellwege: (Laughs) Yeah, here I'm- I'm still here, yes (laughs). Well, I had arranged already for living accommodations with a German professor at that time, Rudolph Fischer. He had a garage apartment available and he offered it to me. We came here, no car, nothing of course. Taxi brought us to the apartment. On the way over, the taxi driver asked me, "Do you have a car?" "No." "I have one for you," he said, "I'll show it to you tomorrow morning." And drive up with a car. Well I bought it. And, uh, we stayed.

The first year was a rough year for me. I had never taught, of course, in an American school. I probably sat up every night until twelve o'clock, okay, prepared my classes for the next day. At that time, you taught three classes, two of them lab courses. So it wasn't an easy a life like it has been later on. There was no secretarial help, at all. Absolutely none, you know. The science division, you had one ditto machine for the whole division, and we dittoed our exams and typed it ourselves. So, you live in luxury nowadays. You don't even (laughs) know how good you have it. And we— Our science building was almost on this site, okay. Knowles Hall, right across from the English department.

Lane: That's right

Hellwege: It had been several other things before. It had been the chapel before 1932. It had been something else, I've forgotten. Then it was remodeled into a science building, later on history moved into it.

Lane: As soon as you left I moved in.

Hellwege: As soon as— Yep, Jack moved in then. So I must say I got a lot of help from students though, you know. We had some fantastic students, and this was a year when Rollins went to Omaha in baseball, okay, and almost won the national championship in baseball. And some of the chemistry students played on the baseball team. Especially one, Connie Mack Butler, who later on became a trustee, one of my students graduated. And he was married and his wife took, also, care of our youngest, our baby, when we had some commitment at night. Well, that was my first year.

And there was one other member of the chemistry department, Don Carroll. He had a slight limp because as a child he had contracted polio. A rather quiet man, you remember him? But very good fellow. He helped me every bit he could, you know, and just so I made it. Not only he, but all the members of the science division helped me fit in the Rollins scheme. And so I made it through the first year.

The college offered me a contract for the second year. It came. I didn't sign until late in the summer because I had promised my wife to go back to New York in the summer after the first year. And we traveled by car. When she saw New York again, she decided Winter (laughs) Park was a better place to live than up there, okay. And then I

signed my contract for the next year. I rented a little house on Antoinette Avenue. It was owned by a former dean of the college under the Wagner administration, I've forgotten his name. And he moved on to Unesco and had a job with them. So that's how I came to Rollins, okay. It was kind of a fluke (laughs). I got another letter from Hugh McKean, he said, "Picking you up in the Schraft's store," he said, "in New York was a good thing for Rollins (laughs)."

Zhang: So what courses have you taught over the years?

Hellwege: Well, since my major had been in the physical chemistry area, not in the chemistry, organic chemistry area, my courses were mostly those, okay. Main course: physical chemistry, analytical chemistry, and some other courses in those areas, okay. The freshman course the first two years Don Carroll taught, and I took over the Freshmen Chemistry the third year. And from there on to the end of my career I've been teaching Freshman Chemistry because— The reason for that is that I like that. I met Linus Pauling, once, you've probably heard about Linus Pauling okay, and through a colleague of his who came to Winter Park every winter, as a snow bird came to Winter Park. He lived in New England, before that taught with Linus Pauling at the University of California, I think, where Linus Pauling was. So he knew him and Pauling visited him here. And in the discussion with them, he asked me lots of the same questions. "What courses do you teach?" He said, "Remember the most important course you teach is the Freshman Chemistry course; that's where you get students interested in your field," okay "and that's where you got to do a good job." And I'm reminded of them, because the very famous theoretical physicist, Richard Feynman says the same thing. You know, he just always taught Freshman Physics. His lecture series, *Fineman Freshman Physics*, if you're ever interested in that, is very interesting. So that's the courses I taught.

I later on introduced Radiochemistry, and then we started the foundation course program. Of course I taught a foundation course for non-science majors and later on developed, with Don Griffin who was one of my earlier students, a non-science major course where we did team teaching. It was a lot of fun to do that together, you know.

Lane: Herb, when you came, did you— You came from a pretty traditional background in education. Did you find the educational process here considerably different than—?

Hellwege: (Talking at the same time) Yes, complete—

Very much different. In German Universities, it was not mandatory to take exams at the end of courses. Okay, you could take an exam, but you had to volunteer for those exams. If you were on a scholarship, then you had to take these exams. I wasn't on a scholarship, but I volunteered anyhow, and just for the simple reason to have my professors get to know me, you know. It was kind of a political move on my part. And, so, at the end of the semester you volunteered for those, and those are always oral exams, rather than written exams. The only written exams were for the master's degree and for the Ph.D. degree. So, quite different, okay.

Lane: So you actually had to learn how to give exams?

Hellwege: Absolutely, yes, yeah, yeah. I learned that, okay, and later on I became a contributor to the American Chemical Society, for writing their exams.

Lane: Oh really?

Hellwege: Yeah, yeah. There's a lot of— You know that, as a teacher, there's a lot to writing exams which are not ambiguous, okay. And it's even more difficult in science. If you don't exactly spell out, you can get half a dozen correct answers because the interpretation may be different, you know, by your students. So you've got to be very, very careful. I never had seen multiple-choice exams, multiple guess exams, you know (laughter). And ask Don Griffin, he still doesn't like that. I always would give oral exams in my advanced courses. They hated that. Of course I'd put them up at the blackboard and ask them questions. He later on tried to do that, but not with great success.

Lane: I noticed in your evaluations, that they mentioned your innovative approaches to some of your courses. Uh, did you— When you came to Rollins, did you get a sense that Rollins was open to that kind of education— lead you to that?

Hellwege: I pleaded for that in our division meetings, okay. And I think they let me have free reign, whatever I wanted to do. That was a nice thing about teaching here. Always been good, you know. The innovative approaches, well one of these was these oral exams, okay, a lot of more class discussion rather than actual lectures in the advanced classes. They'd better come prepared for their class or otherwise they would be nailed because they could not participate in the discussion, of course. I talked to Don Griffin the other day and he remembered that. Well then, innovative— The foundation courses were innovative. And later on Don and I developed a rather innovative non-science major course. And this, this was quite exciting for both of us because, because we did it in a kind of I teacher, him student set up, okay, in front of the class, all right. And we would invite them to ask questions, and I would ask Don questions. And we built in that he would make some mistakes once in awhile (laughs). So that made it exciting for the rest of the students; here the professor of physics could make mistakes (laughs). So that was mostly combined physics-chemistry type thing. So these were the kind of innovations we did. Another new course that I taught was radiochemistry, environmental chemistry, I did. Okay. Then these became kind of fashionable. But they were good basic courses.

Zhang: So over the years which courses did you enjoy the most or which ones—

Hellwege: (Talking at the same time) —Well the one I enjoyed most was physical chemistry because that's really my area, okay. It's been my area of research and everything in my training. But uh, I enjoyed next— oh we also introduced new approaches to Freshman Chemistry teaching. Larry Eng-Wilmot and I did that. And this was based on no formal lectures in the classes, but rather we would give them a handout

on what would be covered in the next class and then we would discuss those things. I've forgotten what that approach was called. Study-unit approach or something like that.

Lane: Your research took you often to Oak Ridge?

Hellwege: Yeah, quite often. Okay, I started— I made it a point that I would get away here during the summer. I started out in 1959. I attended— at that time there was a lot of support for science, because of Sputnik and so on. And I attended a National Science Foundation Institute for College Chemistry Teachers at Emory University, which was designed to bring college chemistry teachers up to the latest advances in the field. It was a great course, all summer long. And then from 1960 I went to the University of Tennessee as a research participant, faculty research participant. Every summer. And that summer I— my— the faculty member who directed research, Dr. Schweitzer, went away to New York University to get also degree and philosophy there, and I took over his graduate students that summer. And we made periodic visits to Oakridge; that is how I got into Oak Ridge, there. I've forgotten when I was at Oak Ridge, I've got to look that up. So I started '61, '62, '63, and the University of Tennessee, and there was a meeting of scientists on solvent extraction and Gatlinburg and I met a Swedish chemist there. And he invited me for a year to come to the University of Gothenburg to do research with him there. And I applied for a National Science Foundation Faculty Fellowship, and got it, and spent a whole year with my family in Gothenburg. We traveled all over Scandinavia at that time. Also, they invited me to give a seminar in analytical chemistry, in English. Okay, all students— All Swedish students could speak English, so that was no problem at all, there. And I learned a little Swedish. Of course it's not very difficult if you are brought up in German because the language structure is Teutonic. It's the same as the German, okay. Yeah, well, what else?

Zhang: Can you tell us about the Arthur Vining Davis Fellowship and also—

Hellwege: (Talking at the same time) -Oh yeah, I got that—

Zhang: (Talking at the same time) Bush Professor of Science?

Hellwege: Yeah. I got the Arthur— What is it? How is it called exactly?

Lane: Arthur Vining Davis Fellowship—

Hellwege: Arthur Vining Davis, yeah. It was a Winn-Dixie chairman, the former Winn-Dixie Chairman, founder of Winn-Dixie. I got that in 1971, '72. Why? Don't ask me. And I was made Bush Professor of Science, I think in nineteen hundred and seventy-six.

Lane: That was one of the first chairs.

Hellwege: Yeah. First chair, right. Vestal had it before me. Then he retired and I got it, okay. It was the first chair, I think. Yeah. Right, yeah.

Yes. I introduced— oh, coming back to the chemistry department, after I came back from Sweden, they made me chairman of the chemistry department. And we went through some troubling times in the chemistry department. While I was in Sweden, my colleague Don Carroll had passed away. Just suddenly. We were a three-man department. The other member was a man named Bob Fitzwater, do you remember him?

Lane: I do not. I do not remember him.

Hellwege: And, we didn't want to keep him because he had some habits which Don and I didn't like at all. He would, - normally would storm into the science building about five minutes after classes had started, you know, and you know how that is. Come right into the classroom and you're not really focused on your classes. So we let him go. And I had a replacement for him and me while I was away, but since Carroll passed away, I was the only member left of the chemistry department, out in Sweden. I knew the program at Wabash College where budding chemistry teachers could intern with the well-known chemistry professor there, Haenish. That Seymour knows him quite well. So I wrote a letter to Haenish and said, well, could he recommend somebody for Rollins, and he recommended Eric Blosssey. And Eric came down, John Ross, physics department chairman, interviewed him. And then I got the report and we hired him. So that's how Eric came here (laughs). And, uh—

Lane: He's a senior faculty member.

Hellwege: Now he's a senior faculty member, right. So what was the other question? Okay, Bush I answered right? Now I'm A.G. Bush Professor of Science Emeritus.

Lane: Emeritus

Hellwege: Emeritus, yeah.

Lane: How would you evaluate your first president here, Hugh McKean. How would you evaluate him as a president?

Hellwege: Uh, Hugh McKean had some really strong sides, okay. And one of them I think is really his love for the college, okay. And his support for the college. He had the great luck to have John Tiedtke next to him, okay. And he had of course a lot of connections to wealthy people in the community and so was able to raise some support for the college. But if it wouldn't had been for Jeanette McKean and John Tiedtke we wouldn't have made— wouldn't have balanced the budget the first, I don't know how many years. Even when you came. At the last faculty meeting we always would be informed that the budget was not met, we were in the red, and some how, miraculously— somehow miraculously John Tiedtke would write a check and Jeanette would write a check and that would make up for the short fall.

As an academic leader I think he was not a great leader. He had some innovative ideas, and that is he started the soccer team here. Should I tell you about that, my involvement in the soccer team?

Zhang: Yes please.

Hellwege: Okay. Well I got a— I think it must have been '55 or so, before you came, I got a postcard from Hugh McKean from India. And he and Jeanette had traveled through India and he had seen Indian boys play soccer there, barefooted. And he was intrigued; intrigued by the game that needed hardly any equipment. Rollins had quit (laughter) — Rollins had quit football a couple of years before I came, okay. And as a matter of fact the last game they played was the University of Miami game; Rollins against the University of Miami, they beat Miami. Joe Justice had that filmed. You know I saw the film, it was kind of interesting. So I got this postcard from Hugh McKean and it said “Herb, do you know anything about soccer?” Okay, of course I knew everything. I had played as a boy, you know, and later on as a young man I'd played soccer. And when Hugh McKean came back in the fall, he called me into his office, he said, “Is it, do you think it's possible to field a soccer team here?” I said, “I have my doubts, you know, I don't think you can get (laughs) American boys into playing soccer.” Well he said we'd try it anyhow. He called Joe Justice in, he was, I think—

Lane: Athletic Director?

Hellwege: Athletic Director at that time. No, no, Jack McDowell was Athletic Director. He was coach of the baseball team. And Joe committed his baseball players to play soccer, you know. And we had a few foreign students, a French kid and a couple of South Americans, and we would go out to Harper-Shepherd field and start to field a soccer team. The first year was a disaster. Well, Hugh McKean would be there every afternoon, you know (laughs). But we couldn't play here on the Sandspur Bowl, it really was a Sandspur bowl, you know, was covered in sandspurs, the whole thing. You could not play there. So, every afternoon— Not every afternoon, but on my lab-free days I would go out and teach those boys, together with those foreign students, the rudiments of soccer. The problem was there was no opponent anywhere in sight, in the whole area. So we had to travel to the University of Florida. They didn't have a soccer team, but they had a soccer club, of all the foreign students there. Okay, and we lost. And Hugh McKean paid a trip, or Jeanette paid a trip down to Miami, and there was a soccer team, all foreign people, and we lost. And then they financed a trip to the Bahamas, and we lost (laughter). So then Jack McDowell called together all the athletic directors of Central Florida colleges: Stetson, and Southern, and I don't think Eckerd existed at the time. But the few of those, okay, and convinced them to start a soccer league. And we did, okay. That was the beginning of our soccer team here.

Not only that, but it had a lot of influence on the high schools and junior high schools because people would see us play. I should also mention this, there was a guy in town and he came religiously every morning and he would go across Sandspur Field and dig out all the sandspurs. And it took him about a year and a half and the field was sandspur free. And we could play there. And we would play soccer here. And some

high school coaches would pass by. It was all open at that time, you know, and saw us playing there. They stopped and inquired about the game. And so, slowly, it started to grow all over (laughs) the county, from that beginning. So that's the soccer story.

Lane: But you did not continue this—?

Hellwege: (Talking at the same time) I only did that for couple of years, then they hired a temporary coach. Then the first full time coach was Gordon Howell, I think.

Lane: I remember seeing the president out there with the soccer team, practicing all the time. He loved that.

Hellwege: He loved that, yep, absolutely. That was his child; his baby. Yeah.

Zhang: I'm looking at some newspaper articles. I am very interested, tell us some more about your research on cosmetics.

Hellwege: On cosmetics, oh. Yes, our department got approached by the chief of VandaCosmetics, which was a division of Tupperware, located in Kissimmee out on Orange Blossom Trail. And he was interested in studying the influence on ingredients in cosmetics on the respiration of the skin. Oxygen respiration of the skin. About— Most people don't know that about ten to fifteen percent of oxygen your body uses is going through the skin, rather than through the lungs, you know. And he approached me and I thought it was a good project for student research and told him that if he would get us a grant, and proper equipment— I suggested an approach to, how to do that. He agreed that that was a good possibility. And I asked for a grant to buy the equipment and also to support students to do the research, also pay for guinea pigs, who would come and be tested for skin respiration. A rather gruesome, gruesome experience for many of them. Well anyhow, what we did is we attached a dome to the thigh of the person. Okay, and then in enclosed system, air was pumped over the thigh, and after one hour the amount of oxygen depletion in the air was measured. And now the cosmetic was applied. Another hour; again the oxygen depletion was measured and then the difference of course would be contributed to the influence of the cosmetic applied. Several of my students did that. The most— The student I'm most proud of is one that is now the head of the department of clinical chemistry at the University of North Carolina at Chapel Hill. A girl who came from a— Her father was a dentist. A broken kind of family. Her parents later divorced. I kind of did some parenting on her, besides teaching. Well, anyhow, she did a lot of that, and some other students did a lot of that. And we invited students from the college to come in, paid them four bucks an hour, or something like that, to be our research guinea pigs. And we found that, really, most of the ingredients he provided us with had very little affect. And so the project was abandoned. Of course we kept the equipment we got under the grant. And I didn't profit from that, and it didn't help me much. It's not an area of research I'm very much interested in, but it was very helpful for students to do that. Very good for them.

Zhang: Now looking back, how do you view your Rollins career.

Hellwege: Oh, I'm grateful that I stayed here, I must say. It has given me all I ever wanted from life. Also it gave me an opportunity to do things outside college teaching. I think I should mention that I worked as a clinical laboratory director in town, part time. I don't know whether you know about that.

Lane: I didn't know about that.

Hellwege: It's an interesting story. Do we still have time? Yep, okay. While we were in Knowles Hall, I see a man walking into the hall, and I ask him if I could help him. He said, "I'm looking for a man who can help me in identifying crystals." I said, "You just met the right guy, that's me (laughs)." What he was after— He owned a clinical laboratory on Orange Avenue, right across from Orlando Regional, now. Later on moved and so on. But at that time he owned a laboratory— Clinical laboratory there. All tests, of course, were down by hand. No equipment, really, to speak of. He was— He had been trained by hands on experience. No really college education. Then, later on in the war, joined the navy, and the navy trained him further in clinical technology. And he founded the lab. He got a lot of specimen from a famous urologist at the time, Louis Orr, you might have heard his name. This urologist was interested in identifying— One calls them bio crystals. Mostly urinary calculi, and bladder stones, and some form in your glands, and in your mouth. He wanted to identify them to treat them, treat the appearance of these kinds of crystals. So Herring came to me and wanted to know how this could be done. So at night I worked with him and we set up a procedure for identifying those crystals. And he began that in his laboratory. At first he did it for urologists in this area, and then it was known through urology meetings, national urology meetings, that this was done in Orlando and the business grew, and grew, all over the United States. Even Canada and Mexico. And, uh— I've forgotten exactly what year. Let me look up in my resume here. Oh, must have been '68 or so the State of Florida tightened up the rules and regulations for certification of laboratories. And what you needed is someone with a college degree and advanced degree to be a laboratory director. So Herring approached me whether I would become an Associate Director there. And I agreed. All my obligation was to spend maybe four or five hours per week. I did that normally after—on lab free days, I would go over there and be at the laboratory and did the more difficult analysis problems there. So, this grew into such an extent that we finally had five, six technologists there, a typing pool of thirty typists, okay, and the amount of samples coming in were between three hundred and four hundred samples per day. Per day, okay. Pardon me?

Zhang: Let me ask you one more question. I really want to ask, how is your sewing career?

Hellwege: (All laugh) Okay, well, well. I retired in 1986. And I had still an office here in Bush. But first my hobby was traveling. We did a lot of traveling. And second, I wanted to do something with my hands. As a chemist you work, of course, with your hands, you know. And your hobbies are involving your hands. And I had an old leather jacket, which I bought in Sweden, by the way, and it had a zipper, a very

heavy zipper. And I went all over town, and nobody wanted to touch— The zipper broke, and nobody wanted to touch and put a new zipper in. And I said, “Well, hell I’ll do that myself.” So I went here to the sewing (laughs) class, and enrolled in the sewing class. And the lady there said, “It probably takes a few years before you get up to that point.” So I sewed for six years and then went into clock school and did clock repair, which I still do. Yep, so that’s how I got into sewing (laughs).

Zhang: Well, thank you so much.

Hellwege: Okay.

Zhang: For your time. We really enjoyed your conversation.