

## Chapter 43

# KAREL LOUWRIER

London

April 4th, 1997

**VM = Vivian Moses; KL = Karel Louwrier; SM = Sheila Moses**

**VM:** This is a conversation with Karel Louwrier in London on the 4th of April, 1997.

How did you find your way to Calvin's lab. when you first went there?

**KL:** I was studying in Amsterdam, radiochemistry, and at the time it was necessary to get a degree to work half a year in a non-chemical field and I chose plant physiology. Here I learned about the work of Calvin, where he applied the radioisotopes for his photosynthesis studies, and I proposed for my practical work in plant physiology similar work in Amsterdam with radioactive phosphorus in the transfer of the mechanism of certain sugars. I calculated how much phosphorus I needed and then it was immediately vetoed by my professor who said it was too expensive! Then I made a decision: I'd rather go to America.

I got an introduction from my radiochemistry professor for Calvin and a little bit later I got an offer from Berkeley. They offered me \$400 a month which was, at the time, for me a miracle.

**SM:** Yes; I remember!

**KL:** A week later another letter came saying they had made a mistake; they meant \$500, but you have to pay tax. It was reasonable so I loved it and I had to organise my trip. I first applied for Dutch money for the trip. So I came up before one of the premier professors said that what you want to do there you can also do it work in Europe, you can do it in Groningen. I said, "I know, I know, but I don't want to go to Groningen." Well, that killed that.

In the meantime there was another letter from Calvin who said he would pay the trip in the States. Then I found a cheap boat trip on a Dutch boat through the American Field Service; (*one*) could go to the States, round trip for I think it was \$100; a very reasonable

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price. It was an old troop transporter, basically an old ship that went to the Dutch Indies before the war. I landed in New York and took a train, which was also a new experience.

**VM:** You were not married at the time?

**KL:** I was not married. No. I was 26 or 25. Finally, in Oakland, I think it was, at the railway station — or maybe it was Berkeley; anyway, it was in huge...it wasn't a platform, it was just (*indecipherable*) step out of the train, and found a hotel.

**VM:** Nobody met you at the train?

**KL:** No, I think I did not tell them exactly when I came. I went up The Hill...yes, I think I went up The Hill to people depending on the Rad. Lab. and there was a very nice secretary who said, "we, you want to rent a room? She had immediately addresses and then I went to Mrs. Dean in 2581 Etna Street. Mrs. Dean was the mother of General Dean who was captured in the Korean War, I met him also because this was after the war and was released. That is where I stayed within walking distance of the lab., the small, the Old Radiation Lab.

**VM:** So then you went to there. You had never met Calvin?

**KL:** I had never met Calvin. So I had to meet Calvin. Of course, I had all my notes but professors were Dutch professors. I specially carried along a huge suitcase with Dutch suit, tie and everything. (*Laughter*) So, when I had my appointment with Calvin I put it all on and then in the lab. he said "you're going to a funeral?". There he was. Like you, but it was a bit more colourful. I was feeling a little bit out of touch, there, and then we had a nice discussion. He asked me what I wanted to do and I said well, basically I wanted to work with carbon-14 and I started working with Al Bassham.

**VM:** In the Old Radiation Lab.?

**KL:** In the Old Radiation Lab.

**VM:** You were in one of those big rooms in the building?

**KL:** No, it wasn't a big room. I did not have my own office; I had my own corner with a desk. Mainly I was working on the bench. I don't have a clear...I know the place I was sitting and writing. It was mainly measuring and the work with the chromatograms. So I didn't write very much; I was basically working practically.

**VM:** And you worked with Al?

**KL:** I worked with Al, yeah.

**VM:** What did you start to work on?

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**KL:** When I came, I asked Al what he wanted me to do, because it was completely new to me. He said we have these chromatograms with a big spot on it and we don't know what it is; we call it "spot X". Can you figure out what spot X is? I started figuring, well working out, making many, many of these chromatograms.

**VM:** Was this a carbon spot or a phosphorus spot?

**KL:** Carbon spot. I worked only with carbon at this time. After some time I found out that is glutamic acid, I think. Al was happy.

**VM:** Did you say "glutamic acid"?

**KL:** Glutamic acid.

**SM:** At which time of the year did you come to Berkeley?

**KL:** In August. When I came over with this boat, before taking the train I had a few days in New York. For a European it was very warm and a good European I was thirsty. I saw a stand where people were drinking something and I went there and I asked (*for*) a beer. So they gave me something dark. I nearly thought it was poison because it was root beer! You couldn't buy beer on the streets. (*Laughter*)

**VM:** You didn't make that mistake again?

**KL:** No, no. In August, of course, it was a lovely time in Berkeley. It was much cooler and I immediately was absorbed in the social life of the group. This was an extremely positive experience for me at that time. There was no time to sit behind and isolate yourself; it was a very active community.

**VM:** Active, how? When you say you were absorbed into the social life, meaning what?

**KL:** Going on hikes, Martha Kirk was the motor in this whole thing; I think she was really the mother hen of the group. We went fairly often into the Sierras and Yosemite Park. The glassblower Bill...

**VM:** Hart?

**KL:** Was it? Was it called Bill? Bill Hart? There was a rather hefty man but he was in the workshop (*Editor: probably Ralph Norman, the carpenter*) and Bill was rather slender.

**VM:** I think so; he had a cabin in the Sierras.

**KL:** He had a cabin, yes.

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**VM:** I think it's Bill Hart.

**KL:** I spent some time there; it was also very nice. He was a very nice man.

**VM:** Especially coming from a flat country like Holland, it's very exciting to (*see California*).

**KL:** Indeed! Absolutely! When I came back, I was shocked — when I came back to the Netherlands; it was so flat, and the houses were that small! The town where I came from — all tiny houses!

**VM:** This was the first time you had been in America, this visit there?

**KL:** Yes.

**VM:** But you had travelled in Europe, presumably?

**KL:** Not very much. At the time it was difficult to travel around and there were a lot of monetary restrictions but I made, as a student, a bike trip through Belgium and France. That also was an experience because coming from a flat country. My first hills! Actually rocks were completely new at the time.

**VM:** Presumably also going to America, then, was your first need to speak English all the time.

**KL:** Indeed.

**VM:** But you spoke it because you learned it at school, presumably?

**KL:** I learned it at school but at school, you get of course the basics and you can read it. During my study, the textbooks that I needed were German and English at the time; very little French. And certain words you never learn at school — or I didn't learn at school: all the things you need for analytical chemistry were new. But anyway, when I came to Berkeley, I had to speak English and the first few weeks this was extremely tiring. I remember that I was in the evening I was so tired and at a certain moment I started to think in English and then it was all right.

**VM:** Is English difficult for someone to learn if Dutch is their native language? It's fairly close, isn't it?

**KL:** I think to speak it correctly is more...or to write it correctly is more difficult than French. In high school I had difficulty with English to write it and, since I had more years in French — I knew that in general you take a French word and pronounce it differently, you have an English word; it works, not always but...But when I look now at my children, I have two generations of children — my first wife died in '79 and from that marriage I have English-speaking children who are grown up and I have a series of my

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second wife and the youngest is eight. They watch constantly television, mainly Dutch television, where they have English films. Since we have a computer now and they play all kinds of games, they all play them in English. Their English is developing very fast and they are living in a French community. So they speak French but English comes much easier.

**SM:** The problem is that it is not phonetic.

**KL:** It is not phonetic, ja.

**VM:** Coming back to Berkeley, did you find the...presumably your exposure to English had been mostly with an English accent when you learned it in Holland?

**KL:** Yes.

**VM:** Was the American accent difficult or did that make no difference?

**KL:** That made no difficulties. Of course, it was different but there I didn't have any problem to understand it. During my whole stay in the States, wherever I was, I didn't have a problem to understand their English or their American. I travelled around in Florida and later stayed also some time on the East Coast. On the other hand, in England, in the United Kingdom, there are areas where "my God, what are they saying?" In a bed and breakfast there were some men sitting and talking — it was English; it was not an Arabic language... There are much more local dialects with people...

**VM:** What about people understanding you in America, did they have difficulty?

**KL:** No, they thought I was English! (*Laughter*)

**SM:** They are not very linguistically orientated at all.

**VM:** There were one or two occasions when we had curious difficulties. We found it impossible to convey meaning. They just didn't understand the word we used.

**SM:** In Oklahoma, they also assumed that since we had a foreign accent it was because we were from California!

**VM:** We had a California license plate so they presumed that's where we were from. (*Laughter*)

OK — so then you discovered that you spot, that compound "X" was glutamic acid. How long did that take you?

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**KL:** I don't know any more.

**VM:** Most of the time?

**KL:** Only a few months. Then I started to work with Ning Pon and somebody else, Rod Park I think.

**VM:** Was Rod Park there already at that time?

**KL:** Yes, Rod Park was there already. We started to work with chloroplasts from spinach. To tell you the truth, I don't know exactly what we did any more with that. It was a detail that escaped me. Ning Pon and Rod Park decided, well, you have to make a publication: glutamic acid is not really very much, and they were right. We need to do something else to get a publication. We did part of photosynthesis in the chloroplasts but it escaped me what...

**VM:** You spent the whole of your period there doing the same sort of work: running chromatograms, doing tracer experiments, counting, identifying — the sort of thing that Al did at the time and other people were also engaged in?

**KL:** Yes.

**VM:** So you were very much part of the photosynthesis group activity?

**KL:** Indeed, yes.

**VM:** Did you have any contact with the people in Donner Lab., do you remember?

**KL:** Yes, also because of the outings. I did not work with them but I was contemplating to work with...what was his name? An older chap...

**VM:** Do you mean Dick Lemmon?

**KL:** Dick Lemmon, ja. But since I had a restricted period there, I decided to continue with Al. At that time, my real interest was the technique and, I think, the real pathway of carbon in the plants; the basic principles, were already there — it was the details that had to be filled in here and there. In the Donner Lab. they worked with — so Erminio (*Lombardi*) worked there — they worked on completely different issues. It was also very interesting. I really enjoyed talking with everybody, what they were. And this was also what I liked of this whole group: it was integrated science. In Europe at the time, we didn't have that. It was everybody for himself and there was no contact between groups.

**VM:** The groups that you had previously known in the Netherlands were presumably much smaller than that...

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**KL:** Oh yes, much smaller.

**VM:** ...than the Calvin group and presumably, also, they were less well funded than Calvin's.

**KL:** At the time they were. Calvin had, of course, the brilliant idea to squeeze money out of the Atomic Energy Commission.

**VM:** He was very successful.

**KL:** Therefore, I was disappointed at the time because I could not work with phosphorus...

**VM:** In Holland?

**KL:** ...in Holland.

**VM:** Did you ever work with phosphorus in Berkeley?

**KL:** No. It was not because of the phosphorus itself. If you work with phosphorus, you can count it very easily. In these labs. we didn't have the same facilities; had we had carbon-14, we had to count it the same way there. I think the counters that they counters developed there (*in Berkeley*) were very, very good and appropriate. We didn't have that. I was not really married with phosphorus but the idea to work with an isotope that opens part of the physical science was...

**VM:** So you spent many hours in that underground room in ORL counting chromatograms?

**KL:** Yes.

**VM:** Were you there when the move took place to the Life Sciences Building?

**KL:** Yes.

**VM:** Was that a very disruptive period? Did work stop for a long time?

**KL:** Not for a long time; it stopped for almost a week (?). I think all moves are interesting in the way that you throw away things that (*have been*) staying around for a long time and you don't need it any more. But we had more place. We could build...we had nice racks so it was definitely a good move.

**VM:** You were in the big room, then, in the Life Sciences Building because the group also had a number of smaller rooms.

**KL:** The big room, ja.

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**VM:** So you found the atmosphere fairly similar to ORL in that sense? Many people have felt that ORL was a very significant factor in the way the group worked. Do you think so? The open lab., the informality of it.

**KL:** No, I did not. The contacts, the social contacts that I started in ORL continued there. I think we saw Calvin a little bit less in the Life Sciences Building than in the Old radiation Lab.

**VM:** But it was further away.

**KL:** It was further away, ja.

**VM:** When you started working in ORL, did you see Calvin often?

**KL:** No, definitely not often.

**VM:** Make a guess! Every week? Every month? Every day?

**KL:** Every fortnight, rather.

**VM:** He would come around and talk about the scientific detail?

**KL:** Ja.

**VM:** Of course you saw Al all the time; you were working with him.

**KL:** Yes.

**VM:** Do you remember the seminars?

**KL:** Yes.

**VM:** You gave a seminar?

**KL:** I gave a seminar, ja..

**VM:** Did you enjoy the seminar?

**KL:** I was extremely nervous. I think I gave a seminar on my famous spot. There was a party the night before and I *had* to go to the party; everybody said you have to come there. “I have tomorrow a seminar”; “come to the party”. So I went to the party. I got up at 3:30 or 4:00 o’clock in the morning to put together the details for the seminar. It went all right finally.

**VM:** Just one seminar you gave there?



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**KL:** Yes.

**VM:** You mentioned before we started recording that you had to leave Berkeley hurriedly because of the Dutch army or something?

**KL:** Not hurriedly, not hurriedly. I had to leave because during my whole studies I constantly applied for an extension of my leave but they became a little bit touchy...

**VM:** This is from the army?

**KL:** From the army, ja. At the time I should take a position, I skipped the army. But then it would have been impossible to return to the Netherlands for a number of years. I didn't want to do that. I had met in Berkeley a Dutchman, it was a New Year's party, and somebody said, "ah! A friend of mine who lived in the same house, A German Klemm...

**VM:** Karl Klemm?

**KL:** Karl Klemm, and so we did a lot of things together. A lady was responsible for foreigners there in the lab. said there was a party and there will be another German so Karl Klemm said "hah — another German". We came there and that other German happened to be a Dutchman that I knew very well because he came from the same lab. where I had been and he was working up The Hill. He had been in New York where there was a laboratory monitoring fallout from the Atomic Energy Commission and he had followed a course there in measuring all kind of isotopes, making separations, etc. Since I thought I was on this side of the ocean I thought it would be nice, so I wrote to the ministry and said how I happened to be here and there is a course from September to December about...can you fund it for me? They were happy to fund it.

So I left Berkeley and kept a month for sightseeing the United States.

**SM:** When did you leave Berkeley?

**KL:** I don't know the exact date but...

**SM:** The month.

**KL:** Must be in August.

**SM:** So you were there a whole year?

**KL:** I was there a whole year.

**VM:** August of '59?

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**KL:** '59, ja. I bought a car in Berkeley from a neighbour, a Buick, a very old Buick and he asked \$100. I found out that the clutch was slipping and he said, "well \$75". So I bought I for \$75 with that clutch. With that car I drove to Canada — my idea was to see Lake Louise and go to the Rocky Mountains, down to San Antonio and to Miami and go back to New York. But in Denver where I had an aunt or a far cousin of my mother — it was a Mormon and I was fascinated because I had never seen a Mormon. I stayed a few time with this aunt. And this trip that I made out of Berkeley, I wanted to make with Karl Klemm. The idea was Karl Klemm and...what was her name? A Japanese lady that was there: Teruko (*Sato?*).

**VM:** I don't know her; she must have been after I left.

**KL:** No, she was there when I was there.

**VM:** Yes, but I had left when you were there.

**KL:** So finally I made the trip only with her because Karl Klemm for some reason could not come along. The car broke down, blew up more or less, in Denver. Fortunately I had (*indecipherable*) and I took the Greyhound because I wanted to visit a few places. And then I came to New York then to these offices where I came with my colourful California shirt and here everybody was dressed in dark suits! (*Laughter*)

**VM:** You have to get the culture right. So you went on the course? I'm not clear: when you first went to Berkeley, you had been working in a lab. in the Netherlands, before you went, and the army was something which you had to do? Before some age you had to complete it, by some age which was the limit?

**KL:** No. At a certain point, they give up. I was...born in '33...I joined finally the army in December '59 when I was 26. I was in this group that was drafted, far and away the oldest because most kids were 18. When I came there, normally I should have been there in September, and I came in December, I had to go to my commanding officer. He said "you are too late". I said "Yes, but I have a letter from the ministry; everything's OK". "Yea, yea, yea, I know, but still you're too late. You missed a lot, especially in theory, the theory of how soldiers behave." (*Laughter*) This was very strange. This had to be a very strange experience, this whole army business — (*indecipherable*).

**VM:** How long were you in the army?

**KL:** I should have been there 24 months but, since everybody came in September, it was only 21.

**VM:** When you left the army, you started your scientific career again?

**KL:** Yes. I started...I joined the EEC. First I made...After I left the army I was completely fed up with mankind and I still had a Deux Chevaux ( this little Citroën) that I had...

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**VM:** You still had?

**KL:** A Deux Chevaux. When I was in Berkeley, I paid also retirement fund; I thought it was a good way of saving. With that I could buy a second-hand...

**VM:** When you left, they gave you the money back.

**KL:** And then I bought this car and with that car I went to Israel. I wanted to go to Israel — I wanted to turn around Turkey and Syria but on my way, there was an uprising in Syria so I parked the car in Athens and took a boat and spent some time in Israel travelling around. Then I came back and a few weeks later I got my telegram that I had...

**VM:** Oh, this was the EEC. You spent the rest of your working life with the EEC?

**KL:** Yes.

**VM:** You mentioned earlier that you went back to Berkeley for the '89 reunion. Was that the only time you went back?

**KL:** Yes, the only time I went back to Berkeley.

**VM:** But you had kept in touch with some of the people?

**KL:** With John Eastman, mainly. Because John Eastman...well, we did a lot of things together. He came to Europe; he went...when I was living in, I think, in Paris at a certain point — for three years I went to work in Paris then. I think John went to Gotenborg for some time and we met somewhere and made a trip to Denmark. Later, when John was married, he stayed in Heidelberg and I at the time was living in Karlsruhe, it was close by, and we were both married and had children about the same age. We saw each other rather frequently. Later, for some time, we lost contact: John got divorced and he was looking at a certain point for a place in Europe for one of his daughters, Kathy, to spend half a year in a European school or in a school in Europe. I could arrange that so she would go to the European school in Brussels and she was sitting in the same classes as my oldest daughter. And that was very nice and we have seen each other occasionally.

**VM:** You saw Martha, you said, when she came to Europe?

**KL:** Martha I have seen very often. Martha spent...so she worked time in Europe in several places. When she was in Europe and we were in the neighbourhood she passed by — we were living in Karlsruhe and I visited her when she was, I think, in Basel or in Bern...Bern, I think...

**VM:** Bern, yes; with Karl Erismann, I think she was.

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**KL:** Later, when I was in Brussels, she came with her daughter, Mitzi I think, to Brussels once and I think a few years, about two years before she died, she was again in Brussels and we just had bought a house there and we were redecorating it and she helped us with wallpaper.

**SM:** She was a wonderful woman.

**KL:** Absolutely, really very warm.

**VM:** When you went back in '89 you will, of course, have seen the round building. How did you like the round building?

**KL:** I think...I've seen a lot of changes in the whole neighbourhood there. The round building is a sign of progress and the building itself I liked and the architecture of the thing is very good. On the other hand, I think that the real original work was done in the older building. I don't know what they are doing now in the round building, but the...

**VM:** Well, the problem, of course, was that the old building was demolished to make way for the chemistry (*indecipherable*) and they had no choice but to move. When the opportunity arose to have another building, the question arose as to what sort of building you have? Everybody remembered with fondness the open structure of the wooden building and they tried to...we tried to reconstruct something along those lines. Since you lived for a time in ORL, I wondered how successful the round building appeared to you as a replacement for ORL.

**KL:** The round building...the openness was much better than the ORL.

**VM:** The group, of course, was much bigger at that time. There were probably ninety people in the round building which is much...

Before we close, just a couple more questions. Presumably you knew Calvin's family while you were there?

**KL:** Yes, I was invited once by the Calvin family, they were living in a very nice house. I remember that Calvin was fascinated by maps. He had a huge trunk full of maps of parts of the world he had been in and as a result, I also have a trunk with a lot of maps. (*Laughter*)

**VM:** So you were influenced!

**KL:** Yeah. We had a very nice evening. I did not have much contact socially with Calvin. I think also of my scientific upbringing in Europe. A professor is a semi-god and you meet them only (*indecipherable*). That has changed but that was a little bit my approach.

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**VM:** Was this also true for the contrast between California when you were there and Netherlands at that time; were the lifestyles very different?

**KL:** The lifestyles were very different. California was much freer. So the Europeans in general are more reserved, still, although the Dutch now become a less and less reserved. What shocked me: first when I came there, they said “what’s your name?” I said “Louwrier”. “Yes, we know that, but when they call you?” “They call me Louwrier” It took me some time before I realised they wanted to have my first name. That was completely different. When I came to Amsterdam, I came from a little town in the Netherlands, I came to Amsterdam, I said “Sir” to everybody I ever met, even my age — I was sixteen at the time but all those people in the (*indecipherable*). I told you I came dressed in a Dutch suit...but I enjoyed that. I really enjoyed the openness. Once in a while I was shocked. “How much do you earn?” In Holland today, still, if you work for Philips, you have to promise that you don’t tell anybody how much you earn. When you earn a lot you had to show it otherwise...and if you don’t, it’s not worth earning that money! In Europe, it is hidden.

**VM:** When you went back to The Netherlands, was it another shock for you? Because you also went to the army.

**KL:** Yes and the army was not very open and it was a shock for me and a shock for my parents. I came back to in Den Helder they were living, very small houses, and if there was a good movie in Amsterdam, I said to my parent, “well, I go to the movies in Amsterdam”. “Go to Amsterdam?”

**VM:** How far is it?

**KL:** Eighty kilometers, that’s about fifty miles. Fifty miles is not much in America. My whole concept of distance had changed.

**VM:** What you have said has been very interesting indeed and I am very grateful to you and I’m conscious that you need to go quickly so perhaps we’ll stop at that point.

**KL:** I enjoyed it very much.

**VM:** Thank you.