Chapter 54

LISE (SCHOU) WILKINSON

London

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VM = Vivian Moses; LW: = Lise (Schou) Wilkinson; SM = Sheila Moses

VM: This is a conversation with Lise Schou Wilkinson on the 14th of June, 1997 in London.

I wonder whether I could start by asking you what your early training in science had been and, therefore, why and how you found yourself in Calvin's lab.?

LW: I started actually with a degree in pharmacy and from there on I got interest in pharmacology and pharmacognosy and decided to do a PhD in plant physiology which was, you know, slanted towards finding what was in these plants, anyway, this sort of thing...natural products.

VM: Where was that?

LW: It was all in Copenhagen. In between...after two years of this, I had the chance of going to the States. I got a grant and it was actually a choice between Chicago, at that time, or Berkeley and Calvin's lab. Obviously one knew that California was, at that time, the promised land so one decided that maybe Calvin's lab. would be the better option. So, I went there.

VM: Did you know anything of his work at the time that you went?

LW: I had read up on it obviously before. One did know because those were the great days, when it was all bubbling up and the path of carbon in photosynthesis and all this sort of thing was *the* thing so one certainly knew about it. But, as I say, they were doing some of that in Chicago at the time but obviously...

VM: That was Gaffron's group in Chicago that you were thinking of?

LW: Yes...but obviously this was, you know, the nicer option, climate-wise.

VM: So, what did you do: wrote to Calvin and said could you come, essentially?

LW: Yes...could I come and, you know, there was no problem. They were very kind. It wasn't a lot of money one had in those days. It was '49 when I went in September '49. It was at that time very much the promised land when you came from war-starved Europe and so on. It was great. Everybody was very kind and I was immediately put onto looking at algae and the usual...you had that very nice wall chart there...what it was all about.

VM: When you arrived in Berkeley, how did you travel, incidentally? Did you fly in those days?

LW: No, I went on one of the *Queens*, I think, one of the old ones. There was a sort of party of students there actually,, not necessarily going to Berkeley, but going all over the place. Some Norwegians, some Danes and some Swedes. We had a great time going across. And then I think I flew across America, stopping in Kansas City where I had a pen friend which had been arranged by the then-American Ambassadress in Copenhagen. So I stopped in Kansas City which was relatively interesting, but not the place one would like to stay very long, and then I went on to Berkeley. Where again, I found a room in International House which, of course, was a very thriving institution; well, of course, it still is — it was at that time. It was as I said full of mature students, shall we say, many of whom had been in the war or who had been held up by not being able to go abroad and this kind of thing. It was a very fertile environment at that time, both there and in the Old Radiation Lab.

VM: When you got to that lab. for the first time, you hadn't actually met any of the people, had you?

LW: No I hadn't. I came completely innocent of any...

VM: This was your first contact, was it, with American academics?

LW: Yes. In fact it was my first contact with anybody abroad because, you know, one hadn't been able to travel at that time at all. I suppose I met in my home before the war people, but that was very different because one was really just a child then and it was really purely sort of on a quite a different level.

VM: Your background had been academic, your father had been an academic?

LW: Yes, my father was an academic. In those days, of course, in Copenhagen...you know, it's such a small country and such a small even academic community everybody knew everybody else and it was sort like an extended family almost.

VM: When you arrived in the lab., do you remember what it was like, coming there? Do you remember whom you met?

LW: One was somewhat in awe of them all but they were all very kind. There was Vicki (*Haas*) as I say who unfortunately died quite a few years ago, Dick Lemmon and Andy Benson who was always terribly kind and nice. In fact it was a very — shall we say —jolly company actually. We used to do things like go down to Yosemite and

ski. I remember I have never been so cold in my life, even in Scandinavia actually, as we went just after Christmas, I think, and took something like...well, they weren't cottages in our sense but they were sort of...

VM: Cabins?

LW: Cabins! That was the word. And there were these beds which obviously hadn't been slept in, you know, for all winter. Sleeping bags, yes, but you had to put on all your ski clothes as well and you could still feel the cold coming up from underneath the mattresses. But it was great days and we enjoyed it very much. Quite apart from the science, of course.

VM: How did you decide on what you were going to do? How was it worked out?

LW: Well, I mean, you know...having read some of the things, and they said was anything I'd like to do and having explained what they were doing at the time. I said, you know rather timidly because I really was such a novice, you know, in this field, I said, you know, I'd ready something about glycollic acid and I'd like to, you know, explore its function and its place in the path. They said "yes, why not, that was a jolly good idea" and put me on, showed me the algae, the chloroplasts and all the rest of it, and I took it from there and went on with it. They were all very helpful. Because after all, this was a completely new technique for me and so on and one had to work one's way into it but everybody was very helpful. So, you know, in the end, one got a paper out of it.

VM: Who was there when you were there, apart from the permanent staff — Lemmon and Bassham and so on. Who were the transients?

LW: Well, there weren't that many at that time actually, but certainly the one I remember most is Cyrias Ouellet from Canada who was, of course, much older than the rest of us actually but who was a very nice chap and full of little anecdotes and fun and also helpful, you know, although he was doing something else from what I was doing but he was a nice chap. I can't remember...Otherwise, it was mostly the permanent people that I remember, I think.

VM: What stage had they got to in the photosynthesis story at the time when you were there because you said you got there in '49.

LW: Yes.

VM: That was fairly early.

LW: It was early, yes.

VM: They were into paper chromatography, I think.

LW: Yes, very much so. That was really the sort of staple technique. And we did that: we ran everything through the columns there and then pinned down, you know, the various compounds to see how far we had got in the sequence.

VM: As you remember it, was as there a fair understanding of what the path of carbon was at that time or was it very hazy still?

LW: No, I think they were getting to grips with it really, you know. One knew already quite a lot. There was lots more to be done, obviously, but I think the basic sort of understanding was there, what one expected to find actually, you know, which wasn't always what one did find, mind you. There was an understanding of the structure, I think. But, of course, Calvin himself was very good at running ahead of his results and getting rather fixed ideas about what he expected to find and sometimes, you know, finding things through his expectations, rather funny results there.

VM: Was he wrong much of the time?

LW: No, not much of the time, but he was once or twice I think.

VM: He would look at the data and really tend to extrapolate beyond the level that many of you would do.

LW: I think that's the way to put it, actually. And some of the time he was right and some of the time he was not. But he hated to admit if he was not right!

VM: Yes, indeed. I think one of the people who may have been contemporary with you was Bill Stepka who actually introduced the group to paper chromatography as I remember.

LW: Yes, he did indeed. I mean he was there when I got there and stayed there while I was there. I'm not quite sure of his exact dates. Yes, that's right; of course I should have mentioned that. He was actually already so established there that one might almost think he was permanent, you know.

VM: It is very difficult to know, to place people in the hierarchy before you...

LW: ...when you first get there.

VM: So when you were there, as paper chromatography must have been fairly new at that point, were all the spots identified or was there still a lot of time spent in identifying these things on chromatograms?

LW: Many of them were identified but obviously some weren't and some time was spent, but I wouldn't stay a lot of time. Except, of course, new things could turn up and one would have to look for that. One had a pretty good idea; I'll have to go back and look at my slides, I think, to see just how far we had got by the time I left.

VM: Who were you working with? Who taught you the ropes? Who discussed with you what you were doing and who was your closest collaborator?

LW: I think it was primarily Andy Benson and also Vicki, as I said, the late Vicki, whereas people like Dick Lemmon I've come to know much better later, you know and that sort of thing. But the Basshams were there too.

VM: Al Bassham was in the lab.?

LW: Al Bassham was in the lab. at the time.

VM: So you started working on glycollic acid.

LW: Yes.

VM: What were you looking for — or at?

LW: I was looking for its role, really, and where it came in the general scheme of things, you know. It's all so long ago I'm ashamed to say that some of it is pretty hazy.

VM: Do you remember where you got to with it?

LW: Well, again, precisely I think I'll have to go and check the papers! I should have done that before I came bit I did actually look yesterday but couldn't find them, I'm ashamed to say! Yes: I'll have to mug up on that.

VM: How long did you spend with them?

LW: Well, it was the academic year really, you know, from September until the following June, I suppose.

VM: But only one year?

LW: Yes.

VM: And you spent essentially all your time working on that topic — glycollic acid?

LW: Yes, that was so, really, enough to keep me busy then.

VM: I gather that while you were there you met your future husband?

LW: That's right. In International House. It was a great marriage bureau at that time. In fact, we still have friends here, you know, who we met there, who were there at the same time, who also stayed married, which is quite remarkable these days. One is the former vice-chancellor of Essex University and the Sheradian Professor of Botany at Oxford, Bob Whatley...I don't know...who was with...

VM: With Arnon; we talked to him already. So what was Geoff (*Wilkinson, Lise's late husband*) at the time? Was he a student or a postdoc.?

LW: No, no, he was a postdoc. You see, he has quite a long history in North America, actually, because he as sent over during the war with the atomic energy project as a very raw Ph.D. being hurried through in wartime in two years because, you know, they had to get them out there. He was sent out...in Chalk River he spent most of his time... with his fellow not only Yorkshireman but from the same town in Yorkshire actually, Cockcroft. Even not only from the same town but they actually attended the same school in (*indecipherable*) although Geoff obviously some years later. He always said that he had the same physics teacher as Cockroft had had but by then the teacher was considerably older and not as inspiring. This is why Geoff didn't finish up with physics but with chemistry.

VM; So they were both in Berkeley at the same time?

LW: No, no, not in Berkeley: in Canada.

VM: I see, yes.

LW: Yes, the atomic energy project. And then, when that came to an end at the end of the war, Geoff thought he would like to have a look at Berkeley. Like lots of people, he wanted to have a look at California. So he travelled down there He was the first foreigner to be cleared by the Atomic Energy Commission and he went to work on The Hill in Berkeley and stayed there, well actually, until the year I left, in '50. He had decided by then he had been churning out isotopes up on The Hill and decided that there was really no future in that. He would like to go back to more sort of chemistry.

VM: Was he actually an employee rather than a postdoc.? What was his status?

LW: Yes. He was an employee at that time, actually...yes, and he said at the time he'd never been so well paid! He went to MIT but he stayed there for, well, two years and then he went to Harvard.

VM: What did you do?

LW: I went home and finished my Ph.D.

VM: "Home" was still in Denmark?

LW: In Copenhagen, yes. Then we got married in '51; I came with him...the year he went to Harvard then. We spent the first five years of our married life there until his old teacher's job at Imperial College came up; he was retiring. Geoff went from Harvard for an interview in London. It just so happened it was just about the day our second child was born, but he went anyway. He got the job because he had always wanted to come back to England and this was obviously a golden opportunity. So we went back, coming to London where it was difficult to find a place to live and, you know, in

many ways, we almost turned right back again. We persevered and have been here ever since.

SM: Which year was that?

LW: Geoff's appointment started from January 1956. And then , you know, he went on until he retired in 1988 when, of course, as in so many cases here, they had difficulty in finding a successor because these days young up and coming people can't afford to go to London where the cost of living of houses and schools and everything is considerably higher than elsewhere in the country. So he continued teaching for another three of four years until they finally appointed somebody who immediately went back to Texas (an Englishman). Again, they were without somebody but finally they appointed Mike Mingus who's there now. But Geoff, having been lucky in his career and his industrial relations, actually was provided with a lab. as he used to say "the finest penthouse in London" with a wonderful view and he was there ever since, still having postdocs. and graduate students and so on, a nice little group up there in his own lab., until the day he died.

VM: When you got married — presumably you got married from Copenhagen and went to Harvard — did you work in science in Harvard?

LW: Yes, I did actually. I was going to ask you earlier if you ever knew Kenneth Thimann...

VM: The name, not the man.

LW: ...who was doing growth hormones in plants and all that sort of thing. I worked for him for a while, until our children were born and so on and I had to mind the home business. Those were good years too and, of course, Thimann was also originally English but spent his last years in Santa Cruz; he stayed in the States but he was at Harvard for a long time and then went to Santa Cruz, I think in semi-retirement. In fact, he just died a few months ago.

VM: You then presumably came back and raised the kids and so on. But eventually you adopted a new career, didn't you, which was not experimental science?

LW: It was history of science, really, which I have been doing for more than twenty years and enjoyed it very much, straying into viruses and infectious diseases in general and lately tropical diseases which I have learned more about tropical diseases than I really want to know.

VM: You've done this a lot in association with the Wellcome Institute in London?

LW: Yes. I do, in fact, still have a little room there and spend a lot of...Because it is a wonderful library and, of course, being in London you are lucky because you've got so many libraries you can consult and so many archives that you hardly ever need to go anywhere else.

VM: Can I take you back to Berkeley in the late forties, early fifties? Two questions, really: Many people have talked to us a lot about what they saw as the influence of the building itself, ORL, on the way the group developed. Do you have any thoughts about that? Did it strike you as being a particularly suitable building for those people? Do you think it affected the way people operated?

LW: Well, it may or may not: I don't know that I have thought a lot about that. Of course, I was such a neophyte, really you know and I just, you know, admired the people there, admired the way they did things. I don't think...I mean it was...perhaps it did pull people together in a way because it was a fairly limited space. You lived very close together and you were thinking about the same things, obviously. Perhaps it was a fertile ground because you were almost forced to speak to people all the time rather than, you know, if you were in a bigger institution, people may be on different floors and all that sort of thing. But here you were really at the centre of things all the time in a sense. I think that's as much as I can say about that.

VM: Do you remember the time that you spent there as being a very lively scientific time?

LW: Oh, yes. Very much so.

VM: Was Calvin a participant in these discussions with you?

LW: Yes, he was. One remembers him as being almost always there. This may be an exaggeration. But certainly in person nearly all the time and in spirit certainly all the time. His ideas sort of permeated everything, I think.

VM: He wasn't in any sense remote to the bench people?

LW: I didn't think so, no.

VM: You had access to him to talk to him easily...

LW: Oh yes, you could when you wanted to, certainly. There was none of what — well, of course, I came from that European tradition and what Geoff always called the "Herr Professor" syndrome, you know. This was a revelation coming to...I mean, in the States in general at that time, it was, you know, first names, you know, and a very different approach on a personal level.

VM: Have you been back there to Berkeley?

LW: I have been back on a number of occasions. I particularly remember the last one when we went, I think, at Calvin's instigation actually because they were trying to interest Geoff in a job in the States or in Berkeley. And I particularly remember Calvin had a wonderful party for us in the garden there. What amused me very much was (I can say this now, of course)...It was a big party but Calvin had us and one or two others in a special corner because he had a special bottle of champagne that was given only to very special guests whereas the rest of them were in another part of the garden where

they were served with some plonk; you know, it was not so important. But it was a very nice party and they were all very nice.

VM: Have you kept in touch with the people that you knew from those days?

LW: Well Andy Benson and Dick Lemmon certainly over the years. The rest of them not so much. This has been, you know, regular Christmas cards and so on. Actually, Andy Benson...I lost touch with for a few years and then he suddenly wrote because he had seen a picture of us somewhere (*Chemistry in Britain* or something, you know) and wrote and said "hallo" and so on and then we have been corresponding again in recent years.

VM: On your more recent return visits to Berkeley, did you go into the round building which was?

LW: Yes, I did.

VM: You know that was an attempt to convert into a modern environment some of the flavour of the old ORL. Do you think it worked, from what you could see?

LW: I don't think I really was there long enough to say whether it did or not. You are probably a better judge than I am on that.

VM: Well, I have my opinions but not necessarily yours.

LW: What I remember was Calvin's remarks when he had to retire and let somebody else sit in his office and that was not easy, obviously, as indeed it probably never is when you retire and have to accept a successor to what you have built up as your very own environment. But at least he still had Marilyn.

VM: Yes. So I think really the last thing I'd like to ask you is what your experience in that lab. did for you in your career?

LW: It certainly got me through my Ph.D. with flying colours. But of course, as I say, like women of my generation, I married and had to follow the boss around which is how I finished up, with Thimann, which was really, you know, not in that particular area. So although it was a great experience and one recalls it with great pleasure and it probably taught one, you know, things about that particular approach to research and so on, it could not be immediately applied to what I was then doing subsequently. But it is something one looks back on with great pleasure and gratefulness, if that's the word: gratitude id the word.

VM: One thing I wasn't clear about and must have slipped by: did you go to Berkeley in the middle of your Ph.D. and then go back to Copenhagen and finish it?

LW: Yes. I think I went after two years and then went back for a year afterwards, something like that.

VM: And it was in plant physiology so therefore highly relevant to what you...

LW: And photosynthesis in particular, yes.

VM: So some me of what you did in Berkeley was built into your thesis?

LW: Yes, but, you know, there were other things as well. But mostly to do with chlorophyll and photosynthesis.

VM: Well, thank you very much indeed for coming and telling us and helping us to relive.

LW: It has been a great pleasure for me too, thank you.

After a break:

VM: New things have arisen. You have memories of social occasions with the Calvins.

LW: Yes, very much social occasions. Both once in Stockholm, I remember, I think there was a big congress and a lot of us (*Editor: Nobel Prize winners?*) were there. Melvin had taken us all out to dinner in a restaurant. As happens in Scandinavia in general, in Denmark as well, service is very slow in restaurants and this did not go down well with Melvin and he was almost on the point of walking out because they wouldn't serve him quickly enough. There was rather an unpleasant episode, but it was very funny on one level.

They tended to, you know, when they travelled throw their weight a bit about because Gen also...we had an episode in Copenhagen once when one of the children had swallowed a marble and everybody had to rush off to hospital; the poor child had to be pumped out although everybody assured her that it would doubtless come out in a natural way. The poor child was pumped out in the end. And I also remember Melvin actually once, at one of these big rave-ups if I can put it that way, in Switzerland (*Editor: Lindau meetings?*) where one of the Bernadottes arranged these Nobel Laureate meetings in the summer, where they had students and they had all the professors there. And Melvin was there, and Gen. Melvin had a great complaint and that was: we were, of course, all invited and put up in a nice hotel with a swimming pool and all the rest of it, but they made him pay for ringing up Berkeley to confer with his son to find out what he was doing. This he found was not good enough and he was not very impressed. There were all sorts of little episodes like that, shall we say. But on the whole, he was always very supportive to his friends and collaborators and so on.

VM: After he got the Nobel Prize in '61, he was gradually drawn into the Washington scene. He was appointed to Kennedy's (*President's Science Advisory*) Committee and so on. You would have seen him through the years, on and off, would you?

LW: On and off, yes.

VM: Did you notice him changing from being a 100% scientist to being, perhaps, only a 98% scientist?

LW: Well yes but, you know, no less than 98 I would think. But then he got into these sort of, shall we say, slightly fringe projects like growing *Euphorbia* in the desert and trying to make oil and this kind of thing which perhaps had moved a bit away from the sort of cut-throat science that he had done before.