ELSEVIER

Biophysical Chemistry 101–102 (2002) 29–32

Biophysical Chemistry

www.elsevier.com/locate/bpc

My life with John A. Schellman

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I met John for the first time 30 years ago.

I was at that time a young man working in Chemistry Department A (Inorganic Chemistry) at The Technical University of Denmark. I had graduated from the University of Copenhagen in the summer of 1968 specializing in molecular and electronic structure of inorganic complex molecules under the supervision of Dr Erik Larsen in the laboratory of Prof. Jannik Bjerrum, who was one of the big names in complex chemistry in those days.

My thesis work described the study of Cu^{2+} complexes of Schiff-bases, and it elucidated the various properties of the molecules through use of absorption and circular dichroism spectroscopy [1].

After graduation I began to work in the laboratory of Prof. Flemming Woldbye who was at that time a well-established inorganic complex chemist who had been involved in developing circular dichroism as a powerful analytical tool in the field of visible and ultraviolet spectroscopy.

As this field was also of great interest to John Schellman and since John for several reasons often came to Denmark, John and Flemming were well acquainted with each other and each other's work.

John's reasons for coming regularly to Denmark several times a year, which he has been doing for more than 40 years (and as a matter of fact also did in the summer of 2001), were both scientific as well as emotional since he came here to work at the Carlsberg Laboratories with the famous Kaj Linderstrøm-Lang as a post-doc in the 1950s, and while he was here he met and married Charlotte, also a post-doc at The Carlsberg Laboratories at that time, his wife now for almost 50 years.

It is worth mentioning that through John, I have learned a lot about the Carlsberg Laboratories and persons there which I otherwise would not easily have gathered through traditional channels. This goes e.g. for people like Prof. Linderstrøm-Lang, Dr Knud Max Møller, chemist and son-in-law to Kaj Linderstrøm-Lang, Knud's wife Birthe and the overall active secretary for Linderstrøm-Lang, Lise Allen who (after his early death) came to work at DTU. Here I met her not knowing from the start that it would later give me an interesting link to Charlotte and John Schellman plus the whole environment at the Carlsberg Laboratories.

Let me end this reference to the Carlsberg Laboratories by mentioning (and illustrating at the same time the closeness of scientific communities both nationally and internationally) that the present head of the Carlsberg Laboratories, Prof. Klaus Bock, is a very close and personal friend of mine since we go all the way back to the 1960s where we shared a room and facilities in a Copenhagen dormitory.

Now back on the track. During one of John's visits to Flemming Woldbye in 1973 at Chemistry Department A, DTU, I was invited to participate in a discussion in Flemming's office about various matters concerning circular and linear dichroism. John was not, and is not, an inorganic chemist but his knowledge of physical chemistry and the basis

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PII: S0301-4622(02)00196-5

and background of various spectroscopic tools is enormous.

It was as I remember a very scholarly discussion in which I had been invited to participate. How much I participated I really do not remember. The only thing I know is that Flemming Woldbye shortly after this occasion asked me to come to his office for a discussion about my future and career plans.

During this meeting, Flemming announced that John had issued an invitation for me to come to the Institute of Molecular Biology at University of Oregon to work as a research associate in John's lab for a year.

The idea was that I should work with a new instrument John had constructed in his lab: a microscope combined with a monochromator, a linear polariser, a linear analyser and data sampler so that circular and linear dichroism could be measured on very small samples, eg. the bleaching process of retina from frog's eyes.

I must admit I reflected somewhat about this offer and discussed it intensively with my wife, Helle. Should we or should we not take our two sons (at that time 5 and 3 years old) and move to the opposite part of the globe in order for me to work on a project which was not very close to my knowledge, but using and developing a method with which I was well acquainted?

We decided to take the risk and move to Oregon. If it turned out to be a difficult or bad project, I was going to work on, we would under all circumstances have had the opportunity to see a part of the world where we had never been before but always dreamt about visiting (the West Coast of USA).

If, on the other hand, the project was an interesting and relevant one, working in John's lab would mean a lot and could contribute considerably to the development of my scientific career.

In the summer of 1974 we were ready to go abroad, and we arrived in Eugene's airport one fine August day at lunchtime after a long trip from Copenhagen to Seattle and one night stopover in a Holiday Inn hotel in the SeaTac Airport.

Charlotte and John were there to pick us up, to take us to lunch and afterwards to the house which John's secretary, Mary Gilland, had rented in our name.

I shall never forget the kindness and hospitality with which we were met and guided by the Schellmans.

From the first day it was almost like coming home, and in one or the other way I think that Charlotte and John to us as to many other couples visiting them for a longer or shorter period from abroad, payed back in remembrance of their own happy time in Copenhagen and Europe during their young days in the Carlsberg Laboratories.

In John's lab I met people like Terry Troxell, Dan Cane, Peg Elwell, Steve Hall and Morrie Craig. Especially, the two first-mentioned became of importance for my understanding of what was going on in John's lab and what I should be able to accomplish later on.

Terry Troxell, was a matter of fact, on his way out when I arrived and as far as I remember I was going to take over a scholarship after Terry. Terry worked on LD in streaming cell systems of DNA etc., and he introduced me to the thoughts and theory behind phase modulation spectroscopy during the short time while we overlapped in the lab.

Terry was on his way to a job with a pharmaceutical company on the East Coast. Later he went into administration in the food sector in Washington DC, and interestingly enough I now hear about Terry Troxell from my coworkers in The Danish Food Administration where I started December 1st, 2001, after having served 15 years as Rector of the Technical University of Denmark (again: the World is a small one when we consider subject areas of specialization).

But back to Terry: he told me some of the 'secrets' in John's lab and introduced me to Stokes and Mueller algebra for the treatment and understanding of light polarization.

Later we published a paper about phase modulation spectroscopy together of course with John [2].

Dan Cane was the person (physicist) who had put John's phase modulation microspectrometer together and he taught me the use, the secrets, the strong and the weak sides of this very specialized piece of equipment.

I admit it was not easy to use but once it worked and everything was aligned and standardized, the instrument gave very nice and reproducible results and spectra.

Unfortunately, the whole procedure for standardizing and preparing the instrument was so slow that instable items were long gone or destructed before one could run a spectrum of the sample in question.

This of course turned out to be fatal in the study of the bleaching process of the frog retina.

After a couple of dark adapted frogs had given their life to science, it was quite evident that whatever had been in the sample cell in the microspectrometer was long gone or altered before a measurement was ready to begin, so no process could be followed and no kinetics or chemical reaction in the frog retina could be described or deduced.

This failure of the project I had come to Oregon to work on was out in the open around Christmas 1974/75 and I must admit that both John and myself were quite depressed over this sad conclusion about the potential of an instrument in which both much time, money and prestige had been invested.

At home my wife and I had discussed what to do. Should we go back to Denmark before time, should I go into another and more biologically oriented project in John's lab or should I try to work on my own inorganic specimens with the micro phase modulation spectrometer?

I decided to go for option 3. John approved and I started to work on crystals of optically active inorganic complexes of Co^{3+} and Cu^{2+} in the hope that the various components of a solution circular dichroism spectrum could be isolated, identified and measured in the solid state by letting polarized light progress along different axes in the crystalline phase.

To be able to do this, I had to read a lot of theory on light and we had to develop a calculus along the lines introduced by Stokes and especially Mueller.

The method which we developed is discussed in publications of Jensen, Schellman and Troxell [2], Jensen and Galsbøl [3], Jensen [4], but especially by Schellman and Jensen at a much later stage when the whole system had been thought out and calculated through in great detail [5].

To me this became a real breakthrough in my career and I went later back to John's lab on many occasions to measure new specimens and to discuss the calculus which, as mentioned, was later published in 1987 [5]. (The year after I had gone into administration as Rector of DTU.)

Of the persons mentioned from John's lab I have only steady contact with John although every now and then I hear about Terry Troxell and maybe we will now meet each other at a conference or official meeting on food standards since we once again are in the same subject area.

Unfortunately, Dan Cane died many years ago. Further, I have lost contact with Peg Elwell and Steve Hall.

I have had some slight contact with Morrie Craig who when I met him 4–5 years ago was a successful Professor of veterinary medicine at Oregon State University in Corvallis, OR.

In conclusion I want to express on behalf of my whole family that meeting and having the Schellmans as our friends has made an enormous enrichment to our lives. To Helle (my wife) and myself, to Jacob our second son who studied for a year in Eugene after leaving high school and who enjoyed the hospitality and guidance from Charlotte and John while he was in the city for a year as a 19-year-old young man. He was far from home but his parents were always confident in the knowledge that Charlotte and John were there if anything needed to be straightened out for him.

Our two other children, Jesper (our oldest) and Johanne (our youngest and only girl) have also learned a lot from contact with the Schellmans, but it goes of course without saying that Jacob is the one who came closest to Charlotte and John.

The time we have spent in Oregon and in the company of Charlotte and John has been some of the most giving in our lives both seen from a scientific, cultural, personal and emotional point of view.

What started as a business relationship in circular dichroism has turned into a long lasting personal relationship and friendship—yes, we sometimes in this family talk about our spiritual

grandparents in Oregon and about our second home town Eugene, OR.

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Hans Peter Jensen received his M.Sc. in chemistry from the University of Copenhagen and his doctorate degree from Chalmers University of Technology in Gothenburg, Sweden. He also holds honorary doctorates from Shenandoah University in Winchester, VA, USA; Helsinki University of Technology, Finland; and State University of New York, USA. Through most of his professional career he has been affiliated with the Technical University of Denmark, but has spent several periods as a visiting professor at University of Oregon and at Chalmers University of Technology in Gothenburg, Sweden. His major scientific interest has been polarised light and its use within phase modulation spectroscopy. During his period as Rector at the Technical University of Denmark (1986–2001) he was involved in work with science and educational policies. In this connection, he was Chairman of the UNESCO International Committee on Engineering Education and a member of the Higher Education and Research Committee under the Council of Europe. He was also a member of the Danish National Science Research Council, and in connection with that a member of and chairman for Collaborative Research Grant Program Panel under NATO Scientific Affairs Division. As Rector, Hans Peter Jensen has been Chairman of the Danish Rectors' Conference, the Nordic University Association, and member of the Fulbright Commission in Denmark. Further he has been serving on a number of national boards. He has published more than 50 scientific papers in international journals and participates in the standing national debate on educational and research policies. Since December 2001 he is Deputy Director in the Danish Veterinary and Food Administration and Research Director for Institute of Food Safety and Nutrition within this agency. Lately, Hans Peter Jensen has become a member of the Board of Governors in the Joint Research Centre of the European Union.