

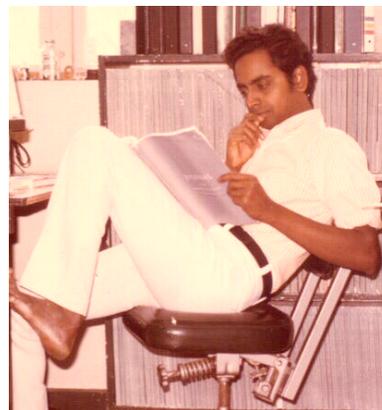
RSHL: A Man of Unconventional Wisdom

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After deciding in April 1970, I arrived in Honolulu on August 20th to work for Professor R.S.H. Liu. One of my teachers in India who had worked with Professor S. P. McGlynn suggested me to work for this young professor who has done some outstanding work on upper triplets. It took a few visits to Liu's office to convince him of my serious interest in science and wasn't there at UH to enjoy Waikiki. Roger Campbell and Yondani Butt who were already in the laboratory were happy to see me as part of the group although I could not figure if it was the same with the boss. Soon after Liu accepted me into his group I started working in the laboratory on upper excited state chemistry that resulted in a publication in a now defunct journal, *Molecular Photochemistry*. Upper excited state chemistry was not as exciting as I thought it would be as I was asked to work on thiobenzophenone, a compound easily detected by its stench and the process of making it using hydrogen sulfide was even worse. No wonder I couldn't make many friends. By God's grace Liu got the idea to work on β -ionones and with that the luck for every one in the laboratory changed for the better.



Roger was busy with naphthalene S_2 and Yondani worked on allo-ocimene when he found the time. Liu tiring of the smelly thioketone asked me to start working on ionones. I worked faithfully on this project for about three years. Results came quickly and continuously. We were able to make the retinal isomers that every one else thought could never be made. We published our results in various journals including *Nature*, *JACS* and even *Proceedings of the Indian Academy of Sciences*. It was an exciting time to all of us including the boss.





The lab was never large. At any time there were 3 to 5 people, no group seminars, no programmed discussion sessions with the boss, no literature seminars, no research reports -- practically nothing of the sort that are being practiced in research labs today. However, Liu was available in his office and did not mind interruption at any time. At times I would find him in his office with a Chem. Eng. News issue open on the desk but staring at the walls. I assumed he was in deep thoughts about β -ionones, the topic of my project. Such deep thoughts often gave rise to interesting and important twists in the ionone chemistry.

I was transformed from the physical chemist I was to an organic chemist at UH. The transition was not very pleasant. I never could make compounds in less than 10 gm scale. While Al Asato and the rest of the real organic chemists on the third floor were making compounds in NMR tubes I was extracting products using 1L separatory funnels and spending considerable time evaporating solvents. Luckily my laboratory location on the second floor helped not to expose my poor experimental skills to Al Asato & Co.

The time I spent at UH was the most exciting period of my life. The friendly atmosphere provided by staff, faculty, friends at UH played an important role in keeping me stay focused. Dr. Larson gave me newspaper everyday but rarely spoke to me --- often he came on Sunday only to give the daily paper. Dr. Inskeep occasionally entertained me on the corridor with dry humor that I never followed. Dr. Andermann kept conversing without worrying whether I was listening. I benefited from the courses taught by Drs. Scheuer, Moore, Kiefer, Seff, Liu, Bopp, Cramer and Hubbard. The last two assumed that students take only one course per semester. Karen and Agnes at the office were patient with my broken-English spoken in Indian accent. They obviously understood what I was trying to convey, for they gave me what I wanted from the Office. Connie had just joined the department and seemed shy to talk to strangers.



In those days, at least 6 to 10 graduate students worked late at nights and ended the day with beer. I joined this group of elite graduate students (Paul Riley, Al Asato, Yoshi Kato, Tom Levek, Ravi, Kini, I-Her

Joe, Dick Laub and a few more whom I can only recollect by memories of their face) at least once a week to catch up with politics and to be sure that I am not their target of fun. This beer-gang often went on hikes and I, in spite of initial physical resistance, joined and enjoyed the outings. There was a sense of friendly competition among the group members that helped us grow with confidence to face the reality of mainland.

On yet another side, Yondani tried to make me appreciate western classical music and Chinese movies and food. Thanks to his efforts in teaching me to drive, my wife is now the official driver of the house. Roger probably believing my only four friends in the department to be RB flask, Buchi evaporator, glass column and HA-100 NMR kindly invited me home a few times for dinner and exposed me to American living.



I had no idea how I was supposed to behave in an American home but I survived. A visit to a baseball game with Roger was exciting but must not have been impressive as I haven't been to another game since then. In the mean time I had built a good rapport with Indian families,

most of whom I met at East-West Center cafeteria. They probably felt sorry for me as I was eating the same yellow rice every day. After six months of the same rice (no salt, no pepper, no taste) I was desperate for good South Indian food and was willing to pay for my meals with chores like house painting, cutting grass, baby sitting etc. After starting as a 'work-for-food' laborer, I slowly became the leader of the Tamil families. The politics between the families made sure that I got free dinners from all families when any one family in the group invited me for lunch or dinner. The experience of dealing with this group prepared me well for department chair job and connection to this community helped me avoid feeling home sick.

By now Liu must be asking when are you going to say any thing about me—this letter is supposed to be about me—why are you wasting paragraphs on other people. When I was a graduate student I epitomized Liu as "God of Wisdom" and one who knows everything in chemistry. I even had a picture of him on my desk! The greatness about this God, was that he felt graduate students will rise or fall on their own and need no help in the process. This approach works best to build student's self-



confidence. I believe Liu set the standard (high) and expected the graduate students to reach it on their own. My feeling is that this approach works best at the very best schools. This atmosphere certainly has helped me, and without the freedom I had at Liu's group I would not be able to run a group on my own now. Liu's strength is his quick, sharp and unconventional (outside the box) thinking. Quite a few times I have been to his office with some spectra/experimental results wondering what they mean. To my amazement he was able to interpret these in a millisecond. Through these encounters I realized that one should not be afraid to think and think differently from others. I am fairly certain that no one but Liu could have come up with projects such as upper excited states, one-way trans-cis isomerization, and hula-twist. A graduate student learns from watching Liu think rather than seeking help on tiny details about an experiment.

After completing my dissertation I left Hawaii in May 1974 with garlands but without the official Ph.D. degree. Eventually I passed the French examination given at Columbia University and to every one's relief I got the degree. During the last 31 years since I left Hawaii, Liu and I have maintained an excellent relationship. As I got older it has dawned on me that Liu is the 'God of Unconventional Wisdom' and not the 'God of Conventional Wisdom' as I had assumed in 1970. When we met at various corners of the world Liu continued to offer sound advise. With time Liu has become very critical and I have become very sensitive. In spite of this dangerous combination we have learnt to appreciate and enjoy each other's strengths, company, emails and telephone conversations. Selflessness makes Liu the greatest 'guru' of all times.

I consider it a privilege to have worked with Liu as a graduate student. If not for my Indian teacher's suggestion and the generosity of Liu to let me in I would not have become a photochemist and all the good things would not have followed. Certainly Liu found something good in me and in his own way reinforced and strengthened those aspects



that have helped me prosper with time. I am grateful to RSHL for his support, for being a source of inspiration and for providing advise at hours of need.

Bob: Thank you for being my teacher, mentor, friend and making a difference in my life. Rajee, Pradeep and myself wish you and Regina very happy, wonderful and fruitful decades of semi-retired life. Have a wonderful time with your grand children and wish you success with yet another newer project what ever that may be!!