

## **The Year 1948–1949 in Prelog Laboratory at E.T.H., Zürich: a Reminiscence**

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After completing my work for a Ph. D. degree at the University of Liverpool in 1948, I wanted very much to spend a period of time in a laboratory in a German-speaking region of Europe. I thought of going to Zürich at the Eidgenössische Technische Hochschule known for its great tradition of excellence in organic chemistry. Professor Leopold Ružička was the Director at that time, but I wanted to work, in particular, with Professor Vladimir Prelog, who had joined the ETH from Zagreb some years earlier and whose work I had admired.

I arrived in Zürich one day in late summer of 1948. I left my luggage at the railway station, took my Ph. D. thesis with me and went looking for Professor Prelog. He had no idea then that an Indian student was about to approach him to plead for a little space in his laboratory. (No one from Liverpool had sent out any letter of introduction or recommendation on my behalf). When I met Professor Prelog, I found him so accessible that I immediately lost all fear. I requested that he might look at my Ph. D. thesis (this was on organic nitrogen compounds and alkaloids) and I would come back the next day to ask if he would accept me. Next day, Professor Prelog with his typically enthusiastic and encouraging smile said »yes« and at my excitement added that he was glad to see people happy. Looking back now over the years, I believe that spending a year at the ETH with Professor Prelog, is probably the wisest thing I ever did in my life.

It was my first and unique experience to work so closely under the guidance of a great scientist. One soon began to look forward to Professor Prelog's morning rounds in the labs and his stops at all the benches and conversations with the group members. In addition to the daily review of the progress of scientific work, one would feel enthused and encouraged. Indeed, there is so much that I could recount about those days with Professor Prelog, but I mention just a few things.

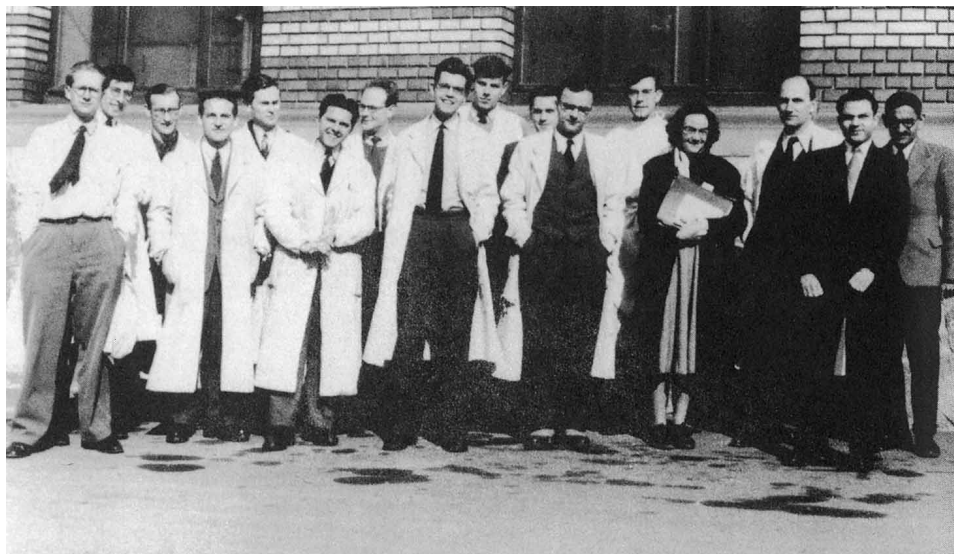


Figure 1. The Prelog Group (1948–1949). Photo April 1949. Left to right: W. I. Taylor, Peter Meister, Joseph Wursch, Mihovil Proštenik, Karahanian, Schubiger, Zimmerman, Hans Meier, Bruno Vaterlaus, Frick, Schneider, Haufliger, Margret Kobelt, Prof. V. Prelog, Fawzy, Khorana, (absent: George Kenner).

Firstly, I never at any time felt that I was being pushed. Quite the contrary, Professor Prelog's greetings in the morning always radiated cheerfulness, support and approval. During one period, my research was hitting a low and I had had a spate of bad elemental analyses on the compounds that I was trying to characterize as degradation products in my structural work on erythrina alkaloids. At that time, there was an analytical section within the organic chemistry department under Herr W. Manser that carried out all the elemental analyses (C, H & N and others) of all the students' compounds. Although we would send the samples to Herr Manser directly, the results always came back *via* the Professors who would look at them and then bring them to the individual students in the laboratories. One morning,

on his round, Professor Prelog came to my bench with a report of analyses in his hand and said »Dr. Khorana, another disastrous day... But you know, I tell myself – I cannot keep going down any more so I must go up.«



Figure 2. V. Prelog in his office at the Organisches Laboratorium ETH – July 1949.

Sometimes I would feel depressed by the thought that the other members in the group, especially my friend, George Kenner from Cambridge, England, knew so much more chemistry and science than I did. Once I bemoaned this fact to Professor Prelog. So spontaneously, he began to say »You know about knowing and knowledge – I think of it like coming into a big room – you come in somewhere and you go out somewhere.« Then he continued »Professor Ružička always asserted that he didn't know much chemistry – hadn't even learnt electronic theory of valency – but that he tried to do the most with what he knew.«



Figure 3. Professor Ružička congratulating Vlado Prelog on the latter's Nobel Prize in 1975. Professor Ružička's own Nobel Prize was in 1939.

All through the subsequent years, it has been my good fortune to have kept in contact with Professor Prelog. In 1966, at the national meeting of the Swiss Chemical Society in Solothurn, I was a guest speaker and Professor Prelog and Professor Duilio Arigoni were my hosts. In September 1976, celebrating Professor Prelog's 70th birthday at the ETH, I talked about »Total Synthesis of a Biologically Functional Gene«. It was a talk on genes, molecular genetics and molecular biology to an audience that consisted mostly of organic chemists. Evidently, Professor Prelog approved of my talk and added »You were focussed and didn't tell us anything you didn't have to«. As recently as November 1991, the Organic Chemistry Department at the ETH celebrated his 85th anniversary (Professor Prelog was very appropriately honored by the Institute on this occasion) and I was happy to be invited. Aside from these get-togethers, many times over the years I would include a stop in Zürich to see Professor Prelog whenever a speaking engagement took me to Europe. The last such occasion was July 4th of last year (1995).

In all the forty-eight years since I left his laboratory, I have never met a humanist-scientist greater than Professor Prelog. Vlado, on this great occasion, I offer, with affection and respect, my congratulations and wish you many, many more years of good health and productivity.

### SAŽETAK

#### **Godina 1948–1949 u Prelogovom laboratoriju na ETH, Zürich: sjećanje**

*H. Gobind Khorana*

Iznose se sjećanja na dolazak u Zürich, na prvi susret s Prof. V. Prelogom, te na poticajan pristup Prof. Preloga problemima svojih suradnika u svakodnevnomu znanstveno-istraživačkom radu.