

Life After Peter

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In the Labour Holiday of 1995, I flew from Shanghai to Toronto for my Master's program at U of T. At that time, China was experiencing a drastic change from highly controlled economy to free market. As most Chinese believed, it was a good time to make some fortune. I had been questioning myself whether I should come to Canada and miss the opportunities. I ended up choosing to come without a clear purpose. Maybe it was simply the desire of seeing the world outside. But after the three years of graduate study with Dr. F. Peter Ottensmeyer, the road ahead of me was clearly re-defined.

The first time I met Peter was after the Labour-Holiday long weekend when a departmental secretary took me to Peter's laboratory on the seventh floor of Princess Margaret Hospital. A fiftyish good-mannered academic-looking gentleman smiled and opened his arms, "Welcome! — You can call me Dear Dr Ottensmeyer, or you can call me Peter."

Peter is a great teacher. He taught me the physics of electron microscopes, the chemistry of macromolecules, and the mathematics underlying three-dimensional image reconstruction. He showed me step by step how to prepare protein samples for imaging purposes, how to operate an electron microscope, how to use the "in-house" computer softwares to process electron micrographs and so on. Peter had a special way of making these technical subjects interesting and intuitively sensible. From his teaching, I could see his sincere appreciation of those subjects and his great enthusiasm in science.

Peter's teaching was far beyond the technical aspects.

In the beginning of my study, my English was not very good. When Peter explained things to me, sometimes I did not understand. Quite nervous at those instants, I tended to nod and say "yes". Peter would stop and watch my eyes for a second, "You have not understood, because your eyes look blank." He said, "If you do not understand, say it, and I can explain it again." Peter made me understand that one should not be embarrassed by admitting "I do not know" and that honesty is a necessary quality of a scientist.

As a research supervisor, Peter always made himself available for us. His office door was always open. He let us freely explore our own ideas and encouraged us to realize our capabilities and potentials. Peter taught us not to take conventions and prior knowledge for granted. He always says that graduate students are "ignorant" and yet their "ignorance" allows them to do something new and different. In fact, one chapter

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of my Master's thesis was largely out of this "ignorance" — Peter posed to me a problem which had been reasonably well solved, but he did not mention any previous work. Without doing much literature search, I jumped into the problem and worked on it for a couple of months. I actually independently went through the thought process of the previous work, and finally chose a different method to solve the problem. It turned out that the method I used improved upon the previous methods. At the moment when I succeeded, for the first time I felt the thrill of achieving something.

From reading Peter's old papers and chatting with other lab members, I got to know many stories of Peter as a great scientist. In those stories, Peter courageously defied the limits of physical experiments and uncovered the truth of science again and again. To some conservative biologists and physicists, Peter was often seen standing at the boundary of science and imagination and it seemed to them that it was his intuition and luck that had led to the discoveries. But Peter likes to say, "Science is reproducibility" — a statement perfectly reflecting his belief in statistics and his capability in detecting seemingly invisible but statistically significant patterns from noisy measurements.

Peter corrected my English pronunciation whenever he detected an error. He would interrupt me immediately, "It is F-I-L-E, not F-I-R-E," Peter exaggeratedly curled his tongue to show me the difference. Peter taught me how to give research seminars. Before I was good enough, he always asked me to rehearse with him a few times prior to my seminar. The department was a mixture of biologists and physicists. This made it difficult to prepare the presentation at the right level. "You should be able to make your grandmother understand your research," Peter always says. In the rehearsals, Peter carefully timed my talk, took detailed notes, then went over my slides one by one, suggesting modifications and teaching me how I should talk on each slide. It was amazing to me that on the same set of slides Peter could always give a much more lively presentation. Gradually, I started to understand and appreciate the art of giving seminars. Then there often came the rewarding moments when some one outside my research area congratulated me for giving a talk that he actually understood. As part of the requirement for our graduate program, one of our last departmental seminars, worth one-course credit, was graded by all professors in the department. I got an "A" for that seminar and one of the grading comments read "you will make a good professor". Very excited and grateful, I knew that all the credit belonged to Peter.

The three-year study with Peter had far-reaching impact on my life. It made me appreciate science, enjoy research, and eventually choose an academic career. Now Peter is retiring. His career as a researcher and teacher is left for us to carry on. — And we will.