Dr. Sanwal's Speech
The Bishnu Sanwal and Theodore Lo Graduate Endowment Fund Dinner
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(https://drive.google.com/folderview?id=0B6VR4fwX-KZkSHJzdm5UY05PWVU&usp=sharing)

A fund named after Ted Lo and I? Why do they want to rename this fund after an antique old guy? Because I am a really old man. I came here in 1973 and retired in 1992. And so, it is 23 years that I have been retired. And so, you can calculate my age. A lot of years. On thinking about it, the way things are done now is really quite different than when I was very active in research.

I have been asked to say something about how it came that I arrived in London. It may be surprising in that when I was leaving the University of Toronto for London, somebody told me, "Hey, where are you going? Some hick town?" ... I am very happy I came here. And I hope to share with you certain romantic aspects of research that we did, way back, years ago.

I thought the best thing is to place the history in the context of research experiences. The sociologists these days divide generations into generation Y and generation X, and so on. It's the same in Biochemistry. You have one era that I would call a classical era that starts in 1914 and goes until 1970, which is, I say, classical because that's when people were working with enzymes and lipids and the like. Then from 1970 to 2000, it was the molecular biology era. And from 2000 onwards to the present time was something I call the systems-biology era, for want of a better name, which includes everything from genetics, to epigenetics, translational medicine, … you name it. Everything is systems biology.

But, of course, in my time, it was all very classical. So, to trace my path ... I was a student in the very famous Swiss Federal Institute of Technology in Zurich. I took a course in physics because it was taught by Wolfgang Pauli. You know Wolfgang Pauli - he was a famous Nobel Laureate from the Advanced School in Princeton. And I flunked his course twice. So the third time I went, it was an oral exam … So I sat there a third time, and he said, "Well, okay. You go on the board." So, I went. He said, "Draw the biggest circle you can draw on the black board." So, I did that, and he said, "In the centre of the circle, put a dot." So, he said, "Do you understand what is happening?" I said, "Nein, Professor." So, he said, "Well, you know that big thing is knowledge, vast knowledge. And you know what you are? That point."

So, I thought physics is not my cup of tea. So, I will try chemistry. So, I looked at the Chemistry Department, and there were not one, but three, Nobel Prize winners: Ruziska, Prelog and Schwartzenbach. So I thought to myself, "My God, I can't handle one Nobel Laureate, much less three." So, chemistry was out of the question, definitely out of the question.

So I thought about Biology (1953). I was so fed up, I took the shortest possible route and took a dissertation in plant pathology, if you can believe it, studying a disease of tomatoes that wilt, caused by a fungus – it is pathetic to see these plants wilting. But anyway, I wrote a dissertation (1956) on that, then got a job with a very big firm in Switzerland. But then, I got curious. You know, I used to read quite a lot. I started reading and thought, "Oh, my goodness! People are doing all kinds of fancy things, and here I am, stuck with this wilt of tomato."

And so, I somehow made my way to Cambridge to the Micro Department, which was a section of the Biochemistry Department at Cambridge. I won't tell you how I got there. I was there only for about two months when luck struck. And how that happened was that you know how at these British universities, the dining halls have a high table and a low table if you are an ordinary guy… So the professors sit at the high table and guzzle all that fancy port, and occasionally, they invite someone from downstairs to go to the high table to try the port they are drinking…... So, it was my turn that day, and I sat next to some old gentleman who turned out to be the Dean of Science at the University of Manitoba. And he asked me, "I hope I'm not boring you. Just say so." The Dean said, "Are you happy here?" I said, "No way. These Brits are very funny. They give me only 70 pounds a month, I can't even survive on that salary." So he said, "That is really bad." He then enquired about everything else, and after two hours of drinking the fancy port, he said to me, "Do you want to come to Winnipeg." I didn't even ask him where Winnipeg was, I didn't know where it was. I said, "How much?" He said, "Well, we can't afford too much. $6,000." I said, "So much!" He said, "It's not so much"… So I said, "Okay," and left Cambridge and went to Winnipeg. Before I left, I went to the lab and said, "Hurray! I got a big job. You guys can hang on with your 70 pounds. I'm going to this big place called Winnipeg." "Winnipeg?" they said. "Do you know in winter, it never gets higher than -40 degrees? Go! But, take care, and don't go out to pee in the night". … I thought they were pulling my leg – I didn't know anything. But anyhow, to cut the story short, I came to Winnipeg and saw the Dean. The Dean said the only vacancy was in the Department of Microbiology, and he gave me a position in that Department (1958). I saw my Chair who told me, "In a few months, you will be dealing with bacterial physiology. But I didn't even know what bacteria looked like. I read up about it, and in two months' time, prepared my lectures. And you can tell all kinds of fibs when you are lecturing. So, that was okay, but I had to know what microbes looked like and what they do.

So… My Chair at that time was an Englishman. And you know, the English are very well known to keep their word – do you believe that? I said, "If I have to go away without pay, will you let me go?" He said, "Yeah, no problem." I said, "I would come back, if you let me go." He said, "Okay, that's the deal." I wanted to know something about microbiology and bacteria, despite being an assistant professor in the department. I went to a position at the MIT in Boston (1961). They had set up a Biology lab from the Magasanik group. I took up a position there, where I had to give a few lectures in biology to engineering students – that was very easy to fool them. So there, I learned what bacteria looked like and how to work with them and how to isolate enzymes.

After a while, as I promised, I came back to Winnipeg. When I started working, I suddenly realized from my reading that you have to have a knowledge of Genetics. So, off I went again. This time, Dave Bonner was going from Yale to chair the Department of Biology at the University of California San Diego. Oh, such a beautiful place! So, I went there (1962) and learned all the genetics they were doing and came back to Winnipeg again.

So now, I knew bacteria and genetics. And then, an amazing thing happened. What happened was that I was lucky to collect a large cohort of brilliant students - one is sitting right there (points to Jim Wright), and they did amazing work, and we wrote lots of papers. You know, a lot of original contributions. Not because of me, but because of these guys who were slaving in the lab. So things were going well, and I thought we could settle down. The temperature in Winnipeg was not that bad really.

One day, very surprisingly, I got a phone call from Paris – Monod, Jacques Monod, the Nobel Laureate who was a big shot in the field. And I said, "Oh, my God! This is amazing!" So he said to me, "I was reading your work, and we need some of your proteins." We talked about two hours, and he said, "Why don't you come over and work here, and we will work together." So, he arranged a job for me. And off again I went and because I had a deal with my Chair to go and come back. So, off I went to Paris (1966-68). And, I tell you, in the lab, this is the first time I learned how science is really done! There were no doors anywhere. People walked in and out of different labs. They were discussing things in the corridors, and everyone gathered in the lunch room from 1 to 2 to talk about their research. That is the way great research is done - when you can mingle, when there is openness. There was this famous guy, Sydney Brenner, who was friends with Monod and used to come over on Saturdays. Meetings used to last until midnight. It was an amazing experience. So, I thought this is the place; I would settle down in Paris and forget my Chair.

Again, a funny thing happened. So, I was all ready to settle down in Paris - beautiful place, beautiful food. Money was not that good at that time. Lou Siminovitch, a name known to all of you, was going to open a Department of Medical Genetics and Cell Biology at the University of Toronto. The Biophysics Department at the University of Toronto was connected to the Pasteur Institute because many in that Department had been trained at the Pasteur Institute. So Lou called Monod and said, "Can you find any guys who can come here on the faculty." So, Monod said, "Why there is Bill!!" And so, we debated. But the money was very good in Toronto and in Paris not so good. We have to collect money for our old age ….. So, we came to Toronto in the Department of Genetics (1969). It was such a strange place. Everyone was such a prima donna. They had their own lab. They didn't allow anyone else to come there, guarding their place. No discussion. Everyone was competing with everyone else. I thought this is no way to do science really. Should be very open sort of thing, like I had seen in Paris. I was a little unhappy.

I was four years in Toronto when another surprising thing happened. I had a phone call from the late Dr. McMurray who chaired our Department between 1982 and 1993. He called me up and

said that he wants to come meet me in Toronto. He came and brought 2 or 3 other guys with him to Toronto. He said, "You know we have a position as Chair. Will you come?" So I thought, "Well, I was very unhappy in Toronto." So, I said, "Okay that's what I will do."

So, I came to London (1973). And when I came to London that was in 1973. You know, I liked the place very much. There was another thing that was happening. Many people don't know this, but London, Ontario and this University were very well known for neurology and neurochemistry. This is where it all started, in London, when Dr. Rossiter who was the Chair of the Department and who came from Cambridge to assume the position. And people knew London was the place where all the amazing work had been done on brain biochemistry. But all these guys that worked on brain biochemistry were lipid guys. The brain is so full of lipid. And for some people something else. The guys that work with lipids don't require any cold rooms or other fancy equipment. There was one centrifuge, maybe a small cold room. It was a barren sort of thing.

So now, I have to get money to equip this laboratory. So, I had a few connections here and there. I went to seek them at the Medical Research Council, now the CIHR, where I knew a few guys from Paris days to whom I could put forth a proposal to support us with equipment. But it was not enough. My Dean was Dean Doug Bocking - a nice guy, amazing. I asked him, "I need equipment." He said, "Well, I don't have any money, but let me see what I can do for you." He sent a letter to all the Heads of the Departments – Physiology, Anatomy … and said, "Can you part with some of your old equipment for the Biochemistry Department?" Of course, they hardly had anything at all. But then, we managed to get a lot of money from the MRC to set up all of the things here, but still not enough, So, I approached some of my group in Toronto, and even approached Lou Siminovitch, and said, "I should be allowed to take all my equipment with me to this place because I bought it." Lou said, "No way! You get nothing!" So, a lot of my group were still working there. They squirreled away a lot of goodies from there and brought them to London. In fact, I don't know how they did it, but one of the things they managed to bring was a shaker that you grow bacteria in. And that shaker is still working!! It's amazing. So, I asked this one guy, "How did you get this shaker, this big thing, out?" He said, "We had to make a pulley from the third floor, and this pulley got this thing down, and we carted it away." So, we got this place built up. It all gave me a chance to bring in some new people and new ideas, and so on, and so forth. Everything was hunky-dory. And that's how I came to London. I have enjoyed every minute of it. Great place. It has been an amazing life in London. In fact, I should have come here first, but nobody approached me. I would have come to London right away.

So, I think I have shared enough. The only thing I want to say is that my colleague, the previous Chair, Ted Lo, had his idea of, like, an old-folks' home, where old guys are looked after. He had the idea of having an old scientists' room. And, he gave me that room. So, we have an old scientists' room. Can you imagine? So now, when someone else retires, I will have to vacate.

But, I will say one more thing, while I am doing this. This guy, Dave, is sitting there (points to David Litchfield). I think you know old guys get tired, so it would be nice to have a sofa so when you need to sleep, you can lie down. And also, old guys like espresso very much. A one-cup espresso coffee-machine would be really great.

I'll stop now. Thank you. I am really grateful.