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Canadian Leader in Neurology: Thomas E. Feasby

Sina Marzoughi MD[1]

[1]Department of Medicine, Division of Neurology, University of British Columbia, Vancouver BC, Canada

The Canadian Leaders in Neurology series is an initiative of the Canadian Neurological Society whose objective is to showcase exceptional accomplishments by Canadian neurologists who are leaders in their respective fields. In this segment of the series, Sina Marzoughi, a neurology resident at the University of British Columbia, interviewed Dr. Tom Feasby.

Figure 1. Dr. Sina Marzoughi (Left) and Dr. Tom Feasby (Right)

Dr. Feasby received his MD degree from the University of Manitoba, trained in Neurology at the University of Western Ontario, completed a research fellowship at the Institute of Neurology in London, UK, and trained in health services research at the RAND Corporation in Santa Monica, California and UCLA. He founded Canada's leading stroke program in Calgary, and the Calgary Neuromuscular and ALS Clinics. As the Head from 1992-2002, he built the Department of

Clinical Neurosciences in Calgary into the leading department in Canada. His early research focused on the pathophysiology and treatment of nerve diseases, especially Guillain-Barré Syndrome. He has published over 100 scientific research papers as well as op-ed articles in leading Canadian newspapers. He was Vice-President of Academic Affairs at Capital Health in Edmonton and Associate Dean in the Faculty of Medicine at the University of Alberta from 2003-07. He served as Dean of the Faculty of Medicine at the University of Calgary from 2007-2012. He previously served on the Boards of the Heart and Stroke Foundation of Canada and the Multiple Sclerosis Society of Canada, and the Strategic Advisory Board of the O'Brien Institute for Public Health. He received the Order of Canada in 2018.

Sina Marzoughi (SM): Thanks so much for agreeing to do this interview. I would like to start by asking you what inspired you to do medicine and neurology?

Tom Feasby (TF): Well, my interest in medicine was long standing, but I don't remember any eureka moment when I decided I must do it. I occasionally joke that when I was young, I had two different family doctors. One was named doctor Good and the other doctor Wright. With names like that, Medicine seemed to be it. I just always thought it would be an exciting field to be in.

I didn't have any people in my family as physicians. My father was a Professor of Dentistry, and he loved what he did, both the practice and the teaching. As for neurology, I was I got interested in medical school because I was intrigued by a couple of the teachers. One was a famous Winnipeg neurosurgeon named Dwight Parkinson, who was known as the king of the cavernous sinus after he mapped it out its complex anatomy. He was a tough guy, but sort of inspiring. And then when I was an intern at Toronto Western Hospital, I was trying to decide between neurology and neurosurgery. By that point, I decided it had to be the nervous system. I didn't know which way to go.

In my neurosurgery rotation, I didn't have very good role models. But, when I got to neurology, I met this fellow named Bob Lee, who was a young up and coming neurologist who I found exciting and inspiring. He, I think, tipped the balance for me into neurology. And ultimately, he became a lifelong friend and mentor.

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SM: I know you talked about the importance of mentors in your career, especially early on. Were there any individuals or mentors as early staff or even in residency that you think made a real difference in terms of your career trajectory?

TF: Well, yes - at different stages. I mentioned Bob Lee. I think mentorship is extremely important at every stage in one's career, even senior levels. I think it's great for medical students to have mentors, and I'm a mentor to several undergraduate students at the University of Calgary right now.

I think it's a very positive two-way relationship with a lot of value in it. When I was dean of the medical school, I would love to have had a mentor to whom I could go when I faced difficult challenges. Role models are important too but aren't necessarily mentors. When I was a resident in neurology, I had several role models, who were really important to me.

One was the fellow named Don Paty. Don ultimately became the head of neurology at UBC and I was honored to give the first Don Paty Memorial Lecture. Another role model for me was a neurologist named Bill Brown, who was a very creative, but somewhat distant, electrophysiologist and neurologist. He offered me some tough constructive criticism at a point when I really needed help with my first grant application.

The head of our department at Western was Henry Barnett - the king of stroke. An amazing guy. He was a very strong role model who really led by example. He always strived so hard and was optimistic and energetic and no hill was too big for him to climb. My fellow residents and I were inspired by his leadership and example.

SM: What can you tell us about your discovery of acute motor axonal neuropathy (AMAN) and the process behind discovering that and what happened?

TF: What I learned early in my academic career is the value of good partnership. We talked about role models and mentors, but partners are equally important. I had the very good fortune to have a good partner named Angelika Hahn, a neurologist, who had strengths that I didn't have, and we were sort of complimentary in our strengths and interests.

She was an expert microscopist. She was also a perfectionist, a great quality for someone who does electron microscopy. I had the electrophysiological expertise, and we both had clinical skills. I was very interested in demyelination and, of course, it was a key feature of Guillain Barre Syndrome (GBS).

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I cared for a woman with a dramatic case of GBS who, within 24 hours was completely paralyzed and subsequently died. When we studied her electro-physiologically, there were no signs of demyelination. In fact, the motor nerves were totally inexcitable.

I did the autopsy with my colleague Joe Gilbert, a neuropathologist, who was also part of our team. We sampled the nervous system extensively, taking the brain and the cord, but also took a lot of spinal roots and the peripheral nerves.

When we did the microscopy, the axons were all gone. There was no demyelination, but there was also no inflammation, which is odd because the hallmarks of GBS are demyelination, inflammation with lymphocytes and macrophages and some axonal degeneration which was usually thought to be secondary to both the inflammation and the demyelination.

Over the next few years, we saw several other cases that were similar but not quite so severe. One of the hallmarks of those cases was poor recovery, as you would expect under the circumstances from the pathology. I submitted our case series for presentation at the American Academy of Neurology meeting and gave it the title, “Inexcitable motor nerves in Guillain Barre polyneuropathy”. It got rejected, I suppose because they thought it was a boring title.

The next year I submitted essentially the same abstract, gave it a different title, and it was accepted. And I'll never forget going to that meeting in New York. The room was absolutely packed and the co-chairs of the session were Arthur Asbury and Barry Arnason, big figures in this field

At the end of my talk, I fielded skeptical questions from the chairs and many in the audience. This was challenging, but I felt confident about our conclusions which were based upon careful observation and examination of the evidence. Our experimental work on Experimental Allergic Neuritis really substantiated the conclusion that this was a new form of GBS. Ten years of controversy followed the publication of our paper in Brain until our conclusions were fully accepted.

SM: I know from 1997 to 1998, you had a change in your research career to more health services related research. What sparked that change and what was the process behind that?

TF: In 1991, I was recruited to be head of the Department of Clinical and Neurosciences at University of Calgary. I was focusing my efforts on building a strong department and was less focussed on research. In 1997, I decided to re-invest in research and spent a sabbatical year in

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Los Angeles, working at the RAND Corporation and UCLA, retraining to pursue health services research, an area I pursued for the rest of my academic career.

SM: On that note, I wanted to ask you about your time leading the department of clinical neurosciences at the University of Calgary and how it developed one of the best stroke programs in the world, not to mention the neuromuscular ALS Clinic and numerous other subspecialities that are leaders in their own domain. What do you think was the key for the success of this department?

TF: I'll use the stroke program as an example just to tell you how it started. We did a strategic planning process in 1992. I'd never done one before, and I was an amateur at it. We got together as a department, and we decided we needed to focus our resources so that we can make some progress. You can't do everything and you got to make some choices. Members of the department were invited to make presentations for what they thought we should focus on.

We had 3 main criteria: Did we have existing strength, ie something to build on? What was the potential in the field to go places, ie could we see a trajectory that would be exciting? And third, was the problem of societal importance?

We took a close look at stroke. At that time, we had no existing strength and it seemed to be a dead-end field. In 1992, stroke patients who came into the emergency department languished in the corner and neurology was not called. It was thought that there was no treatment. Internal medicine eventually picked them up and took them to the ward, and then they were discharged to a nursing home or died. It was dismal.

But clearly, it was a huge societal problem. So that outweighed our weaknesses on those other two criteria, and we decided to do stroke as one of our priorities. We had no resources except for energy and ingenuity and persuasive ability. We had no money and no space. We decided to start by creating a stroke prevention clinic. We also joined a clinical trial of a neuroprotective agent for stroke, just to be in the game. A colleague and I persuaded the Heart and Stroke Foundation of Alberta to give us a salary to recruit a stroke professor, a leader for the program. It took us 3 years to complete that recruitment.

There were times we could've quit, I suppose, but we finally got the right guy. Alastair Buchan arrived on the 1st December 1995, the same week as the NINCDS paper on the success of TPA for stroke came out in the New England Journal of Medicine. He grabbed that, started an acute

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stroke intervention program using TPA, got all neurologists in the department involved. Suddenly, stroke became exciting.

He built the program and together we recruited Michael Hill and Andrew Demchuk, who are still the leaders of the program today. They, in turn, recruited people like Mayank Goyal, Bijoy Menon and many others and started the training program for people from all over the world. So that's how the stroke program got going.

Have you ever seen the movie “Field of Dreams” and the famous saying from that movie? Remember they built a baseball stadium in the middle of an Iowa cornfield?. The saying was, “if you build it, they will come?”

Well, it's not true. Instead, I believe that if they come, they will build it. In other words, don't build fancy, big facilities. Instead, use your money to get the best people. They'll find the money to build the facilities. So, if you can recruit them, in other words, if they come, they will build it. For me, the most exciting part of my job always has been recruiting those people and helping them - not micromanaging - but helping them when they need help and encouraging them and then just celebrating their success.

SM: I’d like to ask you about your time as dean of University of Calgary. I know you faced several challenges including from a funding perspective. I'm curious on your opinion on how you think leaders and aspiring clinical scientists today can navigate today's world?

TF: Well, there's no easy answer to that. You know, I think you recruit the best people and they will have the ingenuity, energy, and imagination to make things work. Back in 2008, we did have some serious problems when I was Dean. First, the government abolished the Alberta Heritage Foundation for Medical Research, which had been our major research salary funding agency. We had to replace all those salaries, and that was difficult over 3 or 4 years. This challenge for us made it extremely hard to recruit anybody.. The next was when the government abolished all the health regions in Alberta and created this giant organization called Alberta Health Services. Suddenly, all that funding we received through the Calgary Health Region was in jeopardy. What's more, the world financial crisis hit in 2008 followed by the H1N1 pandemic.

When I took over as dean, we had a research building that had been completed on the exterior, but the interior was empty. We needed $40,000,000 to finish it. The only place we could get it from realistically was the government. They paid the original money to build the place, but the construction cost had escalated and the University ran out of money. So I got the minister of

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advanced education in my office with the Provost of the University, and I toured him through all this empty space. The Minister asked the Provost what his priorities were and said that if he made this project a priority, he would give us $40,000,000. Done. We got the money. A few month later, the financial crisis hit, and we never would have gotten the money because the government had to pull in its reins. The luckiest of timings!

SM: what advice would you give for neurology residents graduating this year?

TF: I've really enjoyed my career in academic neurology. It has a combination of clinical care, education, and research in various proportions depending on the person - it's a very rich combination. They feed on one another.

I think if you think about the various systems in the body, the thing that attracted me to the nervous system was that it's the great unknown. The brain,is very complex, and we have a lot of conditions where we don't have good answers. Alzheimer's disease, ALS, you name it. Some people might find that discouraging, but it’s fun and challenging to grapple with these puzzles. Stroke was a puzzle for us and we’ve made great progress there. There are plenty of other challenges to keep us engaged.

We're not finished with stroke, but stroke was a puzzle. It's still pretty exciting. So if you're going to be in neurology, I think it's fun to pick away at some of those puzzles. To me, that's the joy of it.

I would just encourage neurology residents to think about it that way, to think about something they'd like to work away at as a problem. You don't have to win the Nobel Prize.
Collect a series of cases, say transient global amnesia or whatever. Take your pick, and start to study them and maybe develop a little bit of expertise more than your colleagues have in those things.

I think residents should start thinking about that early in their residency. If I were the program director, for my junior residents coming in, I'd sit them all down and talk to them about this. And I'd just say, I'm going to give each one of you a mentor, and I want each one of you consider and work on a research project during your 5 years of training.

SM: Finally, I'm just curious, what are you passionate about doing outside of medicine?

TF: I've got a very good family who have loved and supported me. I enjoy spending time with our 3 kids and 6 grandkids. My wife and I both enjoy birding, a very portable, inexpensive

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activity you can do anywhere. I've also played tennis since my early twenties. I'm not as nimble as I used to be, but I can still get around the court. And I remain engaged with various activities at the University of Calgary

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Conflict of Interest

None.

Statement of Authorship

SM conducted the interview and drafted the manuscript.

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