

Profile

Anthony Lang: master of movement disorders



There are few people in the world who know quite as much about movement disorders as Anthony Lang. He is director of the Morton and Gloria Shulman Movement Disorder Centre at Toronto Western Hospital, ON, Canada, and, in addition to his clinical responsibilities, has his fingers, "and probably a lot of toes", in several research pies. In fact, as director of the division of neurology at the University of Toronto, he no doubt has more pies than available digits.

Lang has been fascinated by movement disorders, such as Parkinson's disease, ever since his medical school days at the University of Toronto when he took a course with Joseph Marotta. In those days, physicians would bring patients into the classroom to demonstrate symptoms, and Lang remembers one particular patient very well. "[He] would come in, [having been] asked not to take medication in advance of his arrival. We would all see him in a very parkinsonian state, and then he would take his medication", Lang recalls. The change in the patient's movements was dramatic. "This was like a light switch, and I remember being so struck by this remarkable effect of the medication on brain function that it really stimulated me to consider movement disorders."

Lang was also inspired by the work of David Marsden at King's College, in London, UK, describing him as "a father of the field of movement disorders". Lang decided to embark on 2 years of postgraduate study with Marsden, so, with his wife and two young sons in tow, he set off for the UK and had "the best 2 years of my life". Lang says the experience formed and shaped him in the field, enabled him to make valuable contacts, and also provided him with life-long friends. However, the experience wasn't all plain sailing. "I was paid in Canadian dollars with a medical research council fellowship, and the pound was extremely strong", explains Lang. After arriving in the UK the dollar weakened even further, and thus so did his salary. "I really thought, for a time, I wasn't going to be able to stay for more than a year because of our financial state." But Lang and his wife struggled on in their small house in southeast London. "It wasn't the pleasantest of living environments, so it encouraged us to get out on the road every weekend and see the countryside, see the castles."

Lang returned to Toronto in 1982 and set up the Movement Disorders Centre. This project seems an ambitious undertaking for such a junior doctor, but, as he explains, he had no choice. There was no academic expertise in movement disorders at the University of Toronto, and certainly no clinics: in fact, there were very few specialised movement disorder clinics in the world. "I trained at a great time: when I got in at the ground floor, it was a field that was about to explode", explains Lang. And explode it certainly did.

At this time, there were big leaps in neurophysiology, neuroimaging, and neuropharmacology. The pivotal breakthrough for movement disorders research, however, came not from laboratories, but from the movie industry. The birth of videotape brought movie making to the masses. For physicians trying to assess and diagnose movement disorders, videotaping patients provided an unprecedented opportunity to share observations around the globe. "People began to realise that a lot of the things that had been reported in the literature before, by just describing the problems in words, actually had not really been adequately described, or had been misdiagnosed in many cases", explains Lang. With videos, accurate differentiation between dystonia, dystonic tremor, chorea, Parkinson's tremor, and the many other types of disorders that we now know of became much easier.

Lang's own work also benefited: one of his major contributions to the field of movement disorders has been to categorise and document rare and poorly understood disorders, such as corticobasal ganglionic degeneration and psychogenic movement disorders. Lang's other contributions include his role in the development of surgical techniques for Parkinson's disease, such as pallidotomy and deep brain stimulation, and his involvement in several clinical trials, most famously the Deprenyl And Tocopherol Antioxidative Therapy Of Parkinsonism (DATATOP) trial. This trial was done to determine whether long-term therapy with deprenyl or tocopherol could delay the need for levodopa treatment (the main treatment for Parkinson's disease, which has its own difficult side-effects). Lang has also worked with collaborators in the areas of pathophysiology, molecular biology, and genetics of movement disorders.

The all-encompassing scope of Lang's work can be put down to almost three decades of dedication to the discipline and to his patients. Shortly after Lang's return from London, his old mentor, Marotta, sent a particular patient into Lang's care. Lang was already familiar with this patient's case. "The patient that stimulated me to do movement disorders actually became my patient", says Lang, appreciating his chance to be able to repay the individual.

Lang cared for the man, who was very disabled, for several years before his death in the late 1980s. "I learned a great deal about Parkinson's disease in continuing to manage him", says Lang. And he doesn't just mean in a professional sense. "You're learning the professional side of things about the disease, but you're also learning about human behaviour, and often the strength of the human spirit."

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