



Profile

The making, and makings, of Michael Hanna

Oh, it's confusing! The man makes the place; the place makes the man; it is not the place that makes the man, but the man that makes the place; the man makes the place and the place makes the man. Take your pick, for you can have your proverb the way you like it (just search Google). But for Michael Hanna, Professor of Clinical Neurology, Consultant Neurologist, Director of the University College London (UCL) Queen Square Institute of Neurology in London, UK (one of the world's leading research institutes, with some 1200 staff and students), and chair of the charity Muscular Dystrophy UK, it's the last option that surely fits best.

While Michael is of Anglo-Egyptian heritage, the northern English county of Yorkshire, where he grew up, has left an indelible imprint on him, and seems to have directed his path towards unravelling the connections between genetics, mitochondria, and neuromuscular disease. Indeed, everything he tells me about his roots in the area has a background of ATP, neurons, and muscles. "I am quite a proud Northerner, having grown up near Leeds, and have always been a supporter of Leeds United Football Club, which at times can be quite painful [he admits], and until my late teens I played the proper type of rugby: rugby league [a form of the sport invented and most popularly followed—in the UK at least—in northern England]." He goes on to reveal that he was once Leeds under-14 chess champion, and that he remains something of a Yorkshire Dales (a national park with moorlands and valleys) outdoorsman, a place that demands energy, leg muscle, and determination if you are to cross it. "I have done lots of long-distance walks there", he tells me, "including the 120-mile Dales Way Walk, and the 42-mile Lyke Wake Walk. And I've done the Yorkshire Three Peaks 24-mile challenge in 9 hours; anything under 10 is quite good." The Yorkshire youth also turned into a runner. Despite declaring himself 'not very good', Michael has completed a 10 km race every year for the past 12 years to raise funds for The National Brain Appeal, which supports the National Hospital for Neurology and Neurosurgery (London, UK) where Michael is a Consultant Neurologist. "My central goal has always been to be a competent clinical neurologist", he says, "and I still really enjoy seeing patients and their families, and doing my best to help them. It is a real privilege." Yorkshire people are known for this kind of warmth. Clearly, the place has made the man.

After a degree in medical biochemistry (during which time Michael 'became fascinated with mitochondria and ion channels') as part of his medical education at the University of Manchester (Manchester, UK), he trained to become a neurologist at centres in Newcastle, Oxford, and London. "But the research thing happened a bit by accident", he explains. "I was lucky to secure a Medical

Research Council [MRC] clinical training fellowship and work for a truly amazing mentor, the late Anita Harding, who pioneered genetics in neurology in the late 1980s. She was a brilliant clinical neurologist and had an infectious enthusiasm for using genetics to understand neurological diseases. It was incredibly exciting to be in her lab and working on mitochondrial DNA from patients' muscles, and I discovered new disease-causing mitochondrial DNA mutations. This work sparked my life-long interest in the genetics of neurological and mitochondrial disease."

Michael's continuing association with UCL led to him becoming Professor of Clinical Neurology in 2006. And in 2007, the man really began to help make the place. He established the UCL MRC Centre for Neuromuscular Diseases, a centre dedicated to translational research. "We brought together leading experts from Newcastle and London to build cohorts of patients with neuromuscular diseases and discovered many new genes", he explains. "We also developed better biomarkers of disease progression, including new MRI tools, and new treatments." What he led on a national basis has now become the MRC International Centre for Genomic Medicine in Neuromuscular Disease. It currently spans 14 centres in five low-income and middle-income countries, providing training in genomic medicine, establishing international patient cohorts to understand the genetic architecture of neuromuscular diseases across continents, and acting as a platform for developing therapies. Michael's research also translated into the only NHS-commissioned service for patients with channelopathies.

In 2012, he took on the role of Director of the UCL Queen Square Institute of Neurology. "This has turned out to be one of the most rewarding experiences in my career", he insists. "The Institute is truly a power-house in world neurology, and it is a real privilege to help drive forward knowledge and education in all aspects of neurological diseases and to help develop new treatments. I believe it is absolutely the best translational neuroscience centre in the world and is heading for greater things as we aim to develop advanced therapies, including genetic therapies."

I wonder if Michael has noticed how his particular Yorkshire upbringing with its energy and neuromuscular effort might be influencing the words he uses: 'power house', 'drive forward', 'absolutely the best' (ask any Yorkshireman if there is any better place in the world!), 'heading for greater things' (Leeds United can always dream!).

"The place makes the man, and the man makes the place." I once read somewhere that it was a Tuscan proverb...but I reckon it might come from Yorkshire.

Adrian Burton



For more on Anita Harding see <https://www.ucl.ac.uk/ion/history/notable-former-staff/anita-elizabeth-harding>