



Mr Chancellor:

Cast your mind to a snowbound, windswept landscape on the Yorkshire-Lancashire boundary in 1740. Two small villages - Little Marsden and Great Marsden – had sprung up at the pit heads of two privately owned mines, and the Ecroyd family established a small mill at Edge End. It is fair to say that, at that time, these villages were in the back of beyond. That was, until the Leeds-Liverpool canal found its way directly through their centre, providing the catalyst for an industrial expansion based on cotton weaving. The villages grew...and merged....and like many “new towns” of the era, the new conurbation took its name from the local railway station. In this case, the railway halt was named after the local hostelry – the Lord Nelson Inn - and the Lancashire mill town of Nelson was born.

Careful scrutiny of the parish records reveals that several “sons of Nelson” reached international stardom. These include Jimmy Hogan (no relation I take it, Mr Registrar). Originally an English footballer, Hogan became a legendary European football coach, who is credited with the revolution in Continental football that saw Hungary thrash England 6-3 at Wembley in 1953 - and perhaps explains why Newcastle United have not managed to win in Europe for some time. Then there was "Ted" Koppel, the old friend of Henry Kissinger. Nelson born, Koppel shot to stardom as an American Journalist best known as the anchor for Nightline and as managing editor for the Discovery Channel.

But perhaps the largest, and arguably most influential group of Nelson émigrés were the countless million Jelly Babies, tirelessly “reproduced” in the Nelson confectionary factory and distributed across the globe. That was.....until the birth of John Hardy.

Professor John Hardy is a distinguished geneticist and molecular biologist, who has spent his professional life trying to understand why humans develop degenerative neurological diseases. Often without cure, these disorders are a worry to us all – but in identifying the cause of familial Alzheimer’s disease, John Hardy showed the important role of our genetic make-up in determining whether we develop these conditions. His work paved the way for a new era of neuro-degenerative disease research that has had major impact on clinical practice throughout the world. The genes he has identified form the basis of precise diagnostic tests in an area well known for clinical uncertainty, and his mechanistic insights have underpinned the development of new treatments.

On leaving Nelson, John Hardy made his way to Leeds to read Biochemistry. Following this, his research began under the supervision of Professor Harry Bradford at Imperial College London, before he made the trip “back up north” to the Medical Research Council Neuroendocrinology Unit based at the Newcastle General Hospital. There he began studies of the diseased human brain, working with Jim Edwardson and others on the Brain Bank established by Bernard Tomlinson. After a brief sojourn in Umea, Sweden, where he developed his pathological skills working on the Swedish Brain Bank, he returned to London as a Senior Lecturer at St Mary’s Hospital, before emigrating to the United States. He worked in the USA for fifteen years – first in Florida, in large part at the Mayo Clinic Jacksonville, and then as Chief of the Laboratory of Neurogenetics at the National Institute on Aging, in Bethesda, Maryland. He returned to London in 2007, where he is now Professor of Neuroscience at the Institute of Neurology.

John Hardy has been a stalwart of the genetic approach, always using cutting edge technology to dissect out seemingly impenetrable complex problems. In identifying the first inherited mutations in the  $\beta$ -amyloid precursor protein gene, published in *Nature* in 1991, he showed decisively that disrupting brain amyloid metabolism was sufficient to cause the disorder. This fuelled a growing body of opinion that  $\beta$ -amyloid

was the cause of Alzheimer's disease. His findings were perceived to be a "divine gift" by a growing group of scientists, evangelically holding the view that  $\beta$ -amyloid was the cause of the disorder. This group became known as the Beta Amyloid Protien, B.A.P. or BAP-tist group, based on their belief that  $\beta$ -amyloid was the prime mover. John Hardy had it made.

However, there was a strong opposing view, based on pathological evidence that the neurofibrillary tangles that characterise Alzheimers' disease are composed of a protein called Tau. Many in the field thought that Tau was the real cause of the neurodegeneration – a view held with religious fervour by the so called "Tau-ists". Having made the seminal discovery, John Hardy was firmly in the BAPtist camp – but never a one to cling to dogma, he set about trying to disprove his own hypothesis, and led the group that indentified the first inherited forms of dementia due to genetic mutations in the Tau gene - published in yet another of his many *Nature* papers.

This very public story illustrates on one John Hardy's great strengths. Unlike many scientists who make an important discovery, and spend the rest of their lives showing others how important it was, John Hardy is genuinely driven by the scientific truth – even if it forces him to openly challenge *his* original stance.

In addition to his incisive intellect and sharp wit, John Hardy's interpersonal skills play a key role in advancing scientific endeavour. Always open to collaborate, John has been the driving force behind several major international studies. His unique relaxed openness and honesty is disarming, and has enabled him to work simultaneously with intensely competitive research groups. This has been hugely valuable – forming large multi-national consortia with the power to address important scientific questions that simply would not have been possible had he not been involved. Not surprisingly, John finds himself involved in research projects in all four corners of the globe, where he generously gives his ideas, and his time, freely.

But scientific advance is not the only thing for which John is famous, Mr Chancellor. Today we see Professor Hardy decked out in the fine regalia of Newcastle University. But this does not sit well with John, who is usually kitted in an outfit.....well....how can I put it.....rather befitting his reputation as a dedicated, and focussed laboratory

scientist. John has, some would say, and *idiosyncratic* dress sense. Clothes are simply not of any interest to him, leading his lab staff to affectionately call him “scruffy”.

Let me give you some examples.

In the not too distant past, John Hardy attended a conference with a highly distinguished colleague – who happens to be a very fussy dresser. Unfortunately both turned up to the airport with the same suitcase. John unwittingly picked up his colleagues suitcase when they parted at the end of the evening, ensuring that he got an early night before his plenary speech the following morning. John was apparently rather pleased when he opened the suitcase the next day. Having recently married, he assumed his new wife had bought him an entire new wardrobe for the prestigious lecture he was about to give. He dressed accordingly, and gave the presentation.....unaware of his furious colleague, who sat on the front row of the auditorium in Professor Hardy’s eclectic attire.

Now, Mr Chancellor, I have some sympathy. At the last World Congress of Neurology meeting in Bangkok, I had the pleasure of sharing a table with Professor Hardy at the conference banquet. For those of you that know Neurologists, I think it is fair to say that pink shorts, an Hawaiian t-shirt and \$2 flip-flops are not the usual formal evening attire. Nonetheless, even with his dress sense he unwittingly excels, having recently been given an award by his peers for being the “worst dressed man in science”.

Of course, this may give the impression of him being scatty. However, having published over 400 original scientific papers, he is anything but scatter brained. Professor John Hardy is the most cited academic in the field of neurodegenerative disease in the United Kingdom. Having turned his attention to the Parkinson’s disease, the second most common neurodegenerative disorder, he jointly leads a £5M Wellcome Trust programme studying the pathogenesis of the disorder, and spearheads a transatlantic consortium investigating the genetic basis of Parkinson’s disease in collaboration with Newcastle scientists. He has received several international awards for his work, including the Potamkin Prize from the American Academy of Neurology, the IPSEN prize, and the Kaul Prize for his work on

Alzheimer's disease. He is a member of the Academy of Medical Sciences and is a Fellow of the Royal Society.

Mr Chancellor, Albert Einstein is credited with the quote: "*a scientist only leaves two items behind him: his discoveries, and the people he has trained*". Most scientists only manage one or the other, but John Hardy has excelled at both. He has a rare talent for spotting future academic leaders, and a list of his trainees reads like a "neurogenetic who's-who". As an individual, he has arguably made the greatest single contribution to our understanding of the complexities of neurodegenerative disease. But despite his senior position, he is generous and modest, often sacrificing his own advancement in favour of others. This frequently includes the prized last-author position on prestigious manuscripts.

Mr Chancellor, despite his many achievements, John Hardy still has a one major academic ambition. He would like to write a new book based on over 30 years of his own research. I understand that he is, quite literally, hungry for more data. He continues to gather information, largely based on his own personal experience. This has not required any public funding, and it is based on a scientific study of  $n=1$ . The book – well, I am told that it will be called "Street Food of the World". Let us hope that his time as a post-doctoral scientist in Newcastle will ensure that "stottie cakes" and "broon ale" figure in a prominent place.

Mr Chancellor, in recognition for his major contribution to our understanding of neurodegenerative diseases, a lasting legacy of world-class neuroscientists that he has trained, and his ongoing support for the work we are doing at Newcastle University in the field of neurodegenerative disease and ageing,

I ask that you bestow upon him the degree of Doctor of Science, *honoris causa*.

Patrick Chinnery  
4th December 2010

