GRADUATION 2013

Presentation speech for Professor Stephen O'Rahilly for the honorary degree of Doctor of Science of the University *honoris causa*

Chancellor, many years ago when I was working for my D.Phil in Oxford, I investigated aspects of the economic history of the Caribbean. It soon became clear to me that the twin pillars of the economies of most of the West Indian islands were sugar and slavery. I did not take me long to decide that slavery was a very bad thing indeed but I still rather approved of sugar – which made a lot of people rich and was one of the first consumer luxuries in Britain.

In my own defence I must say that, when I was a student in the late 1960s, what we now know as type 2 diabetes or adult onset diabetes barely existed. Today, however, we face a pandemic of diabetes, with an incredible 371million sufferers worldwide. Diabetes is a modern-day plague that affects all countries, but especially those in the Caribbean, Africa and the Middle East – the homelands of many of our students - as well as the Americas and Europe. In the Caribbean, the Prime Minister of Barbados has stated that all of the economic gains of recent years have been cancelled out by the treatment costs of diabetes. Indeed 80% of male surgical hospital beds are blocked by the treatment of limbs often irreparably damaged by diabetes.

Where once diabetes was a rare disease, the wards of hospitals throughout the world - both in the rich world and, cruelly, in the poor world – are now populated by patients whose limbs have been amputated, whose blindness is progressing, whose hearts have been damaged and whose brain power has been reduced by this modern curse of diabetes.

But, Chancellor, it follows that the men and women, who research into this disease and who treat its patients are the heroes of our time. Prominent amongst these heroes is Professor Stephen O'Rahilly.

Professor O'Rahilly's approach has been pioneering because he took advantage of the modern molecular biology revolution – the revolution in DNA science – to attack diabetes from a new direction. He had the insight to recognise that those relatively few patients who develop diabetes because of purely genetic defects could tell us a great deal about the diabetes that affects the millions. Professor O'Rahilly, has demonstrated the importance of courage in research and major medical advance - because in the early days it was by no means certain that his approach would be successful.

Major advances are often made when different approaches are put together. What Stephen O'Rahilly has done is to put together the disciplines of molecular biology and the clinical study of diabetes - and this is what has made him one of the most creative scientists of our generation. His contribution was clearly recognised when, in 2003, he was elected as a Fellow of the Royal Society.

If we are to stop diabetes from overwhelming world economies we need measures to treat diabetes and perhaps more importantly to prevent the development of the disease.

In the University of Buckingham, we have scientists who are involved in the development of new diabetes drugs and the University's Clore Laboratory has played, and continues to play, a role in the development of new and better treatments.

However, the more important issue is prevention. Here we have our honorand's second interest : obesity. Obesity is very closely linked, not only with diabetes, but also with cancer and many other conditions. Professor Stephen O'Rahilly has had the courage to transcend the simple model that obesity is merely a consequence of self indulgence, greed and lack of exercise. Through his identification of the locus of the various genetic mutations associated with severe obesity in children referred to his clinic, he has been able to demonstrate the complex system in the brain that controls appetite, satiety and energy expenditure.

Disturbances in this system results in obesity and in turn in some individuals this promotes diabetes and other diseases. 'We are all aware of pregnant women craving soil because they lack some nutrient that this provides.' Professor O'Rahilly would claim that satisfying our appetite is a hard-wired behaviour which can encourage us to seek energy dense food with the largest energy intake. Chefs, food and drink producers and retail outlets all attempt to influence this behaviour.

But by understanding the chemical mechanisms involved, Steve O'Rahilly hopes that we will come to identify prevention and treatment strategies for obesity and diabetes.

Chancellor, I call upon you to confer on Professor Stephen O'Rahilly, the degree of Doctor of Science *honoris causa*.

Professor John Clarke, MA, DPhil
15 March 2013