

## **Sir Paul Maxime Nurse**

### **Doctor of Science**

**Durham Cathedral, 4<sup>th</sup> July 2003**

It is 1957. A small boy, eight years old, has gone out, at night, in his pyjamas, into his North-West London garden to watch the Russian earth-satellite Sputnik, with its dog Laika inside, fly overhead. Supposing (of course, erroneously) that he can keep the satellite in view longer by following it, he runs down the road, still in his pyjamas, pointing out the wonderful object to no doubt bemused passers-by. This scene is magnificently affecting because it so vividly suggests the wonder of knowledge, something always potentially present in a university's very reasons for existence - teaching and research. This scene of long ago may not have been the moment of the birth of scientific curiosity in Professor Sir Paul Nurse, but it is an early index of delight in discovery and creation that sets a keynote.

Paul Nurse's background was not one of obvious educational advantages: his mother worked as a part-time cleaner, his father as a mechanic in the local Heinz food processing factory. Lest this absence of obvious advantages make little Paul seem terrifyingly prodigious, it may be encouraging to merely remarkable talents to know that university entrance was not unproblematic. Gifted as young Paul was at science, O-level French constituted a stumbling block that was removed only by the action of the then Professor of Genetics at Birmingham University, who took the trouble to interview his unusual applicant at unusual length, and - since the troublesome foreign language qualification could not be complied with - to set it aside. Even the ability of a future Nobel prize winner may need a little leg up in this life.

Paul Nurse went from Birmingham to work for a PhD at the University of East Anglia, and from there to Edinburgh, Sussex, London and Oxford, where he was Iveagh Professor of Microbiology. In the 1970s and 80s he worked on fission yeast to address the questions 'How does a cell reproduce itself?' and 'What makes a cell divide?' Having discovered a mutant causing defective growth in yeast he went on to ask, 'Is there a human equivalent?' The eureka moment came in 1987, when it became clear that the computer analyses of yeast cells and human cells were coinciding. Dr Nurse, beside himself with excitement, raced round his institution demanding that anyone he found, whatever they were doing, come to see these results. Space travel perhaps did not seem so wonderful to young Paul as what Dr Nurse and his team had discovered: a gene basic to all life on earth. The enthusiasm and wonder with which Sir Paul greeted this discovery perhaps illustrates the view he propounded in his Nobel Prize biography, that science has in common with art an aesthetic dimension irrespective of its invaluable practical applications - not that it is obviously delightful to know that we have something fundamental in common with a fungus, but biomedical research of many kinds will benefit from Sir Paul's discoveries, and they have meant an outstanding breakthrough in the understanding and treatment of cancer.

Sir Paul has received many awards for his work throughout Europe and America. Recognition of its importance culminated in the 2001 award (jointly with Leland Hartwell and Tim Hunt) of the Nobel prize for Medicine – the prize awarded to Alexander Fleming for the discovery of penicillin, to Crick and Watson for the discovery of DNA, and to many other of the most illustrious figures in modern medical research. It is typical of Sir Paul's modesty that in discussions of the prize he emphasises that the award is for the science, and

Sir Paul is one of Britain's most eminent scientists. He is also a central figure in the British scientific community. As Director General for Science of Cancer Research UK he controls a multi-million pound budget. He has taken a particular interest in the public understanding of science. He was a founder member of the European Life Scientist Organisation, and he chairs the Science in Society Committee of the Royal Society, both of which aim to improve dialogue between scientists and the public. He has also played a forceful role in debates about the public funding of science. He will therefore be a great loss to the British scientific community when he takes up his new post as President of Rockefeller University this autumn.

Teaching and research may do no more than convey and reinforce existing paradigms of knowledge. Sir Paul acknowledges the importance in his own intellectual life of both school and university teachers who taught him the value of alternative views: even where these turned out to be wrong - as they often did - they might at least scour some rust from the armour of truth; and without failure along the way there is seldom new knowledge at the end. Paul Nurse was attracted to biological science precisely because it could ask questions about the nature of life to which the answers were not known. Throughout his work he has kept great unanswered questions in view, in the context of seeing science as a liberalising and progressive force, an international activity that can overcome cultural and political barriers, and a form of knowledge valuable both for its own sake and for the practical ways in which it can be harnessed for good.

Sir Paul has been described by the Sun newspaper as 'the David Beckham of science'. I leave you to elaborate the variety of resemblances. Let us hope they include his salary in the foreign team to which he has just transferred.

Mr Chancellor I present Sir Paul Maxime Nurse, Fellow of the Royal Society, to receive the degree of Doctor of Science *honoris causa*.