

# Preface

## Why This Particular Book?

After I retired I received a Leverhulme Trust Professorship to be held for 1 year in the Department of Anatomy and Developmental Biology, University College, London, and the Department of Human Anatomy and Cell Biology, University of Liverpool. Because I was unable to take a continuous year due to research and teaching commitments in Australia, the Trust graciously allowed me to take up the appointment spread part-time over 3 years: 2001–2004. This permitted me to work with Professors Robin Crompton in Liverpool and Paul O’Higgins then at University College (but now Foundation Professor of Anatomy at the University of York and the Hull York Medical School). The Trust required me to collaborate in research and give research seminars.

However, the Trust also required a series of Leverhulme Lectures. These lectures were to be available to the general public as well as to the academic colleagues and students, but still to explicate my latest research ideas. A tall order! Yet it seemed worth trying.

My work in retirement is also supported by the University of Western Australia through my appointment in 1998 as Emeritus Professor and Senior Honorary Research Fellow in the School of Anatomy and Human Biology, and, in 2006, as Adjunct Professor in the Centre for Forensic Science. In these positions I have obtained continuous Australian Research Council Large and Discovery Grants, the most recent of which goes to 2009. In addition, with Professors O’Higgins and Crompton, and also Dr Michael Fagan (University of Hull) I am a partner in a Leverhulme Trust Research Grant 2004–2006,

two Marie Curie Research and Research Training Grants 2005–2008 and a BBSRC, UK, Research Grant 2007–2009. These grants have coincided with my appointments as Honorary Professor of Anatomy in the Hull/York Medical School, and Honorary Professor of Bio-Engineering in the University of Hull.

My work has also been recognised by the Charles Darwin Lifetime Award of the American Association of Physical Anthropology in 2001, a Cambridge University Press Volume ‘Shaping Primate Evolution: Form, Function and Behavior’, edited by Fred Anapol, Rebecca German and Nina Jablonski, 2004, and the Chancellor’s Medal of the University of Western Australia in 2008.

The Leverhulme Trust has agreed that I can include the words ‘A Leverhulme Public Lecture Series’ as part of the book title.

I have discovered over my lifetime that both students and the public are fascinated by the inside stories of how discoveries are made. Peter Medawar once asked the question: ‘Is the scientific paper a fraud?’ By this he did not mean that scientific papers were actually fraudulent (though scientific frauds have been perpetrated); rather he meant that the way scientific papers describe research is rarely the way the research actually happened. In this book, in each chapter I have attempted to do what is rarely done, that is, to describe how that chapter’s problem actually arose, how the methods used in its examination came about, who and how were collaborators involved, what were the twists and turns of thought involved in the story, what errors were perpetrated (for there are always errors!), what partial solutions have so far appeared, and what new ideas or changed directions or even reversals(!) stem from the work.

I believe it most important never to be wed so firmly to currently popular ideas that the mind is closed to new facts, new interpretations and new possibilities. In particular, I believe I should never be afraid to try new techniques of analysis, though more and more, as I get older and older, I am dependent upon younger colleagues for help in this regard.

Yet, dependent upon them as I now am, I recognise that the younger doctoral student may have a very difficult row to hoe. He, and, nowadays increasingly she, has to work on a single problem

for two, three, even sometimes more years. Inevitably, periods occur when the work seems boring, when the muse fails, when the black dog sets in. Of course, these negative periods regress and students do finish. The beauty of being an older academic is, however, that one can have several problems going at the same time. When I run into a block, I merely move over to another problem until the block resolves. I have always thought of this through food. It is important to have several ‘bread-and-butter’ problems going at once. These are the problems that are highly likely to yield answers. It is also important to have some ‘cake’ problems (if they have no bread, let them eat cake!). These are somewhat more problematical; the answers are not so obvious, and may indeed be quite surprising. They are, however, still likely, if less so, to be successful. It is further important to have a few ‘pie-in-the-sky’ problems. These are highly unlikely to be successful; they are, conversely, rather likely to antagonise more conservative colleagues; but if they work out: jack-pot!

Further, the researches of a younger academic are usually relatively linear following a specific line of thought. But as I have become older and worked on problems for longer and longer, the research pathways have become evermore mazelike, evermore complex, with greater interactions among the parts, with unexpected twists and turns along the way, and with a gradual knitting together of questions that initially seemed very distant from one another. I take great delight in finding both the great complexity in what is generally seen as simple, and the simplicity that can often be found in what seems to be hopelessly complex. I feel that I must never be satisfied with the popular version of what is true or false, and, what is also most important, I must never be satisfied that my own efforts have revealed the truth. In this regard I am an unrepentant Popperian; I truly wish to falsify other people’s ideas; but I also truly wish to falsify my own ideas. Such an approach should not, however, fall into the trap of negativism. In particular, one should not believe that there is just one recipe (often called nowadays ‘world’s best practice!’) for tackling particular problems. Rather, there is no one world’s best practice; there are many different paths that lead towards the acquisition of new evidence; sometimes less rigorous paths, creatively applied, may

actually supersede the so-called ‘gold standards’ applied in a less ‘thinking’ manner.

One might think that all these are my plea to accept my interpretations. Do not be misled. They are not. They are a plea to do science, and in the doing to enjoy it. As one does science, the part played by serendipity becomes evermore evident. Research is very often a kind of Alice-in-Wonderland task. It is the excitement and complexity and surprise of my little bit of science that I am trying to present in this book.