GENES, DETERMINISM AND GOD

Over the past centuries the pendulum has constantly swung between an emphasis on the role of either nature or nurture in shaping human destiny – a pendulum often energised by ideological considerations. In recent decades the flourishing of developmental biology, genomics, epigenetics and our increased understanding of neuronal plasticity have all helped subvert such dichotomous notions. Nevertheless the media still report the discovery of a gene 'for' this or that behaviour, and the field of behavioural genetics continues to extend its reach into the social sciences, reporting the heritability of such human traits as religiosity and political affiliation. There are many continuing challenges to notions of human freedom and moral responsibility with consequent implications for social flourishing, the legal system and religious beliefs. In this book, Denis Alexander critically examines these challenges, concluding that genuine free will, often influenced by genetic variation, emerges from an integrated view of human personhood derived from contemporary biology.

Denis Alexander is Founding Director (Emeritus) of The Faraday Institute for Science and Religion at St. Edmunds College, Cambridge University, where he is an Emeritus Fellow. He previously spent fifteen years in the Middle East where he helped establish the National Unit of Human Genetics at the American University Hospital in Beirut. More recently, he has been involved in immunology, genetics and cancer research in the United Kingdom, latterly at The Babraham Institute, Cambridge. Dr. Alexander was previously editor of the journal *Science & Christian Belief* and writes and broadcasts widely in the field of science and religion. He gave the Gifford Lectures at St. Andrews University in 2012.

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DENIS ALEXANDER

University of Cambridge

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Preface

This book is an amplified version of the Gifford Lectures given at the University of St. Andrews in December 2012. I am grateful to the then principal of St. Andrews, Professor Louise Richardson, now Vice-Chancellor of Oxford University, for her kind hospitality. My thanks also go to the members of the Gifford Committee for the invitation and to Professor Alan Torrance in particular for hosting and organising the occasion.

The Gifford Lectures were endowed by the will of Lord Adam Gifford, associate judge of the Court of Session, in a ceremony held in Edinburgh on 21 August 1885. A man of generous spirit and liberal values, Lord Gifford's only restraint as to content was that the lectures should address 'natural theology in the widest sense of the term'. Although theology per se does not appear in the present volume until the final chapter, it is the author's contention that a rich discourse of natural theology can only emerge when theology is woven together with many other disciplines including, in the present book, history, sociology, philosophy and, especially, science.

At the time of giving the Lectures I gave acknowledgement to two previous Gifford lecturers whose life and work have been of particular influence in my own thinking and writing. The first is the late Arthur Peacocke, my tutor in biochemistry whilst an undergraduate at St. Peter's College, Oxford, who gave the Gifford Lectures at St. Andrews University in 1992–3. The second is the late Donald MacCrimmon MacKay who gave the Gifford Lectures at Glasgow University in 1986. Donald was born in Caithness in the fishing village of Lybster in 1922 and graduated in physics from St. Andrews in 1943, later to become one of Britain's leading neuroscientists. Not many neuroscientists can claim to publish papers in *Nature* and in the philosophy journal *Mind* within a short space of time. Peacocke and MacKay were amongst the sharpest thinkers in the field of science and religion in the latter half of the twentieth century, representing two very

different theological traditions, and yet their thinking was remarkably convergent on a number of key points. I wish to acknowledge my debt to them both, and now dedicate this book in their memory.

I am also hugely indebted to the many people who have helped with the research that provides the bedrock on which this book is based. My special thanks goes to Nell Whiteway who pursued literature searches with great energy and thoroughness during her three-year stint as a staff member of The Faraday Institute for Science and Religion based at St. Edmund's College, Cambridge. Preceding her for a shorter period was Nicole Maturen and, more recently, Lizzie Coyle, all likewise staff members of the Institute, who have both made valuable contributions.

I am also very grateful to those many kind friends and colleagues who have read and corrected draft chapters relating to their own particular areas of expertise, in many cases going the extra mile in fitting reading into tight schedules or in pointing to otherwise overlooked publications: Kathryn Asbury, Duncan Astle, John Coffey, Samuel Cohen, Tim Crane, Andrew Davison, Caroline Eade, John Evans, Jeff Hardin, Rodney Holder, David Lahti, Neil Levy, Hilary Marlow, Harvey McMahon, Alfred Mele, Michael Murray, Adam Nelson, Ronald Numbers, Stephen Oakley, Christopher Oldfield, Julian Rivers, Alan Torrance, Eric Turkheimer, Christopher Watkin and John Wyatt. It goes without saying that all the infelicities that remain are entirely the responsibility of the author. Indeed, in such a wide-ranging book, the danger of factual errors is ever-present and readers are welcome to e-mail any that they might find (to dra24@hermes.cam.ac.uk) with a view to correction in a further edition. Finally, my many thanks are due to Christopher Akhurst for his sub-editing and to Beatrice Rehl, Isabella Vitti, Laura Morris, Kaye Tengco and all the editorial staff at the Press for their support and help in seeing the manuscript published.