

out, so I will touch on a few of the memorable ones. 'Lens oncogenesis and differentiation' (Westphal) describes elegant experiments showing that transformation leading to oncogenesis freezes cells in their state of differentiation. The lens is merely a model system, so why not use a more general title? 'Genetic engineering of cardiac muscle cells' (Fuller and Chien) suffered, as did several articles, from the necessity to appeal to a very diverse readership. The author galloped, and eleven pages was rather too few to cover the subject. In 'Plant genetic engineering and future agriculture', S. Riazuddin showed touching faith when stating that, 'With increased public education, genetic engineering innovations will no doubt become transparent to the general public'!

Schmitt and Arnheim explain how PCR carried out on individual human sperm cells can give us information about recombination events. Their section on technology development with automated microcapillary electrophoresis, results scanned by confocal laser, stored to computer and analysed within minutes, gave a vision of the future close to that seen on the Starship Enterprise. The final two reviews in the book contrasted so greatly that I felt compelled to comment on both. The first of these 'Recognising exons in genomic sequencing using GRAIL II' (Xu *et al.*), made me wonder if I am alone in wanting computers to work for me rather than the other way round. The introduction told me more than enough about this gene analysis programme, but the authors went on in mathematical detail. What a relief to turn to the final (and best) review in the volume. 'Gene expression of plant extracellular proteins' (Keller) was perfect in every way, a simple fascinating introduction, a clear paper in short sections, with the latest literature covered efficiently.

Overall the subject matter of this single volume is too wide-ranging to be of interest to many buyers. The libraries of the largest, and most broadly based institutions may wish to possess it. The rest of us would do better to order individual reviews from the British Library.

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Genethics: Technological Intervention in Human Reproduction as a Philosophical Problem. Kurt Bayertz. Cambridge University Press, Cambridge. 1994. Pp. 342. Price £45.00, hardback. ISBN 0 521 41693 0.

That technological intervention in human reproduction presents us with philosophical problems has never been in doubt. The scope and magnitude of this is made clear by

Bayertz who sets his agenda in the preface as being to 'Understand philosophically the nature of these problems'. He achieves his objective well. In this book Bayertz displays a startling command of his subject, and that is both an asset and a liability.

There is a lot of solid meat in this book, in which Bayertz brings together a broad spectrum of philosophical thought on the nature of humanity. There is also ample scholarship which traces the history of philosophical discussion surrounding human reproduction, making the point that this is nothing new and has been present certainly since Plato. Schopenhauer and Nietzsche perhaps don't receive the attention due to them, Bayertz preferring to draw widely on Muller, Kant and Fletcher.

There is a penetrating attempt to get to the heart of the meaning of Humanity in which Bayertz shows himself to have a sound grasp of the theological issues involved, although perhaps more could have been made of this. This was for me the most disappointing aspect of the book, since his comments are restricted purely to the Christian persuasion. Any serious attempt to deal adequately with Genethics needs to consider the contribution of other faiths.

The bulk of the book is given to a discussion of the substantialist and subjectivist perspectives on the subject. Substantialism comes over as negative and prescriptive, and would seem to suggest that the whole area of technological intervention in human reproduction is one step too far. Substantialist arguments can be used to say that there are philosophical reasons for saying that the principle is simply wrong.

This leads Bayertz, in a powerful closing chapter, to conclude that 'Due to the fundamental significance of human autonomy, the social institutionalization of the human being's subjectivity and the asymmetry of the two main positions, only subjectivism can be accepted as the philosophical basis for a publicly binding Genethics'. Others, given less to pragmatism, may wish to conclude otherwise.

Bayertz's book is an excellent reference work, skilfully crafted together, but it is hard going. His arguments are sometimes complex and occasionally obtuse. It is not therefore a book for the reader new to philosophy. Neither is it a book to be read if you are looking for easy answers to the many ethical dilemmas faced by clinicians in a busy fertility clinic. But I would recommend it as a basic reference work for any student or practitioner working in the area of human reproduction. It is a book which will be relevant for years to come.

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