BOOK REVIEWS

If you wish to order or require further information regarding the titles reviewed here, please write to or telephone the BMJ Bookshop, PO Box 295, London WC1H 9JR. Tel 0171 383 6244. Fax 0171 383 6662. Books are supplied post free in the UK and for BFPO addresses. Overseas customers should add 15% for postage and packing. Payment can be made by cheque in sterling drawn on a UK bank or by credit card (Mastercard, Visa, or American Express) stating card number, expiry date, and full name. (The price and availability are occasionally subject to revision by the Publishers.)

Principles of Health Care Ethics. Editor R Gillon. Chichester: John Wiley. 1994.

This book consists of 90 essays edited by Dr Raanan Gillon, a general medical practitioner, who is now professor of medical ethics and editor of the *Journal of Medical Ethics*. Most contributions are of similar length (about 10 pages) and read as a conversation between Gillon and each contributor with a number of interesting interauthor discussions. It is very readable and will certainly be of interest to health professionals who have a concern about medical ethics. Its major disadvantage is its cost.

The editors have structured the book around the unifying theme proposed by Beauchamp and Childress (1989) of four prima facie moral principles of health care ethics, sometimes referred to as the "Georgetown mantra": respect for autonomy, beneficence, non-maleficence, and justice. These, it is argued, transcend the values of different cultures, traditions, and societies and provide a framework which encompasses most, if not all, the moral issues that arise in health care. They provide a common set of moral commitments. This approach, however, is not accepted by every contributor. Armstrong and Humphrey (chapter 73) offer a sociological critique, questioning whether one can talk in terms of "principles" in the sense of universal attributes of human morality that can be value neutral rather than values that are socially derived. On this basis they argue that any search for universal principles governing human behaviour is futile, that ethics is one particular "belief system" among others, and that the role of the ethicist is "neither to change nor study the world, but to reveal it as spectacle" (p 860). This questioning of the limitations of the Four Principles by Armstrong and Humphrey and by other contributors, however, does not detract from the book but shows how Gillon has successfully provided an arena where different perspectives can be explored.

In part 1 the four principles are discussed in the context of several philosophical and religious perspectives including Roman Catholic, Islamic, Buddhist, Humanist, Marxist, and Feminist. Part 2 broadens the discussion to health care ethics in practice, with 17 chapters on the nature of the relationship between patients and health professionals and an exploration of issues such as confidentiality and decision making. The third section considers moral problems in particular health care contexts, for example, abortion, euthanasia, and the care of sick babies and the elderly. The fourth section deals with the potential tensions between health care ethics and society, including topics such as health care economics, health promotion, medical research, and the implications of medical technology. The final section covers ethical problems which arise out of scientific advance.

It is impossible in the space of this review to discuss in detail every chapter but we will highlight some of the contributions that could be of particular interest to readers of this journal.

Mary Seller (chapter 82) discusses some of the ethical issues that confront clinical geneticists and genetic counsellors in their practice. She highlights the tension between the interests of society in eliminating, or reducing levels of, genetic disease, and the interests of individual patients and families. Non-contentiously, she advocates respect for client autonomy, confidentiality, and truth telling, the aim of genetic counselling being to enable people to make informed and free decisions. She discusses the moral status of a fetus and the generally accepted premise that a mother's right to life (in the widest sense) supersedes that of the fetus, a fact which in practice seems to outweigh the potential quality of life which the fetus would have when born. The distinction drawn by Seller between disorders, or diseases, that usually result in suffering for the affected subjects (such as spina bifida), and conditions like Down's syndrome where children "seem not to suffer in life and indeed are regarded as 'happy children' . . . " (p 968) is important.

Sellers however fails to explore several areas where practitioners might face dilemmas. For example, the ethical issues raised by more general aspects of genetic services such as prenatal screening programmes for populations, as opposed to prenatal diagnosis in particular families, is not discussed. The issues raised by genetic registers are not addressed, and the debate about the circumstances in which patient confidentiality may be broken is also largely ignored. It is unclear, for example, whether Seller advocates the practice of revealing presymptomatic genetic test results indicating disease susceptibility to the employers of airline pilots, or only the existence of overt, hazardous genetic disease. It seems likely that these omissions reflect the very long gestation of the volume.

Weatherall's chapter (chapter 83) sets out a number of the issues raised by the clinical application of human genetic manipulation including carrier screening, predictive testing and susceptibility testing, gene therapy, and the patenting of human gene sequences. Weatherall adopts a very positive utilitarian attitude to advances in recombinant DNA technology, contending that a good deal of public anxiety is based on the "slippery slope" argument and that it would be a tragedy if misconceptions about the genome project were to set back progress in a field which has so much potential for human well being. For him, DNA technology raises no fundamentally new ethical issues (p 974) and he is optimistic that "common sense will prevail" (p 979).

While recognising that technical advances may raise certain definitional problems, for example, what is a serious genetic disability, Weatherall adopts a position of cultural relativism, arguing that decisions should be made by society, or by families within their social context. This raises an interesting issue that deserves further discussions: is it possible, as Weatherall argues, for a population to give permission for (genetic) screening to be carried out (p 974)? How feasible is this approach in terms of population control, sex selection, and prenatal diagnosis? What would this amount to in our "free-market", consumerist society in which fashion moulded life styles are paradoxically accepted as the natural expression of extreme individualism? Would this relativism not conflict with Weatherall's wish to avoid the commercial promotion of genetic testing? In more general terms, how does one compare and weigh the rights of individual subjects against their duties to society?

There are several chapters which discuss the issues surrounding pregnancy, abortion, neonatal care, the problematic nature of how to define human "potential", and the new reproductive technologies, including infertility treatment. Strong and Anderson (chapter 51) tackle the question of the moral status of fetuses and, although they argue that there should be a strong presumption in favour of maternal autonomy, they hold the view that third trimester fetuses have a strength close to that of persons and as such have moral worth. They argue that fetuses should be treated with respect because of the beneficial consequences of doing so for society as a whole. They fail, however, to offer a framework of analysis for the younger fetus. Whitelaw and Thoresen (chapter 53) present a very helpful discussion on some ethical issues faced in neonatal intensive care. In reply to the question of whether or not to use intensive care life support in newborns they offer "the golden rule": treat others as we would like them to treat us.

The question as to whether decisions about newborns should rest on "quality of life" or "value of life" arguments is debated by Alison Davis (chapter 54) and John Harris (chapter 55). The polarity of their views stands in stark contrast. Davis argues that all babies should be kept alive as far as possible because all human life has intrinsic value (p 630), and to see the value of human life only in instrumental terms is based on a negative value judgment about the lives of disabled people. She argues that the disabled must be seen as whole people with infinite value, and not merely as a collection of malfunctioning parts (p 635). She links cost effective arguments with a eugenic approach, which begins from the point of asking questions such as "who is worth saving?" and "do we treat?" rather than "who can be saved?" and "how do we treat?".

Harris proceeds to dismiss Davies's pro-life arguments and the implicit moral imperatives as untenable. He begins with the contention that "from egg to newborn the emerging human individual is significantly less important than self-conscious adults; that is, in short, a different moral status" (p 644) and suggests that what makes someone "a person" involves some combination of self-consciousness and fairly rudimentary intelligence (p 654). For Harris "if abortion is justified then so is infanticide" (p 653). He is quite clear that all persons share the same moral status, whether disabled or not, but "to decide not to keep a disabled baby alive (to kill it in other words) no more constitutes an attack on the disabled than does curing disability" (p 654). His argument here rests on a distinction drawn between an in-

dividual's personal decision and their attitude to a generalised group in society: when a mother says that she would prefer not to have a disabled child she is not saying that she prefers those without disability as persons (p 654).

Unfortunately in several places Harris merely summarises his argument as presented elsewhere, referring readers to his book *The Value of Life*. It is clear from that book that his conclusions are simply assertions based upon prior assumptions about the values of different lives. For example, in the section on selective treatment of newborns, his unpalatable conclusions flow naturally from his prior assumptions. He states, "I assume . . . that this sort of judgment (about selective treatment of newborn infants with spina bifida) . . . is unproblematic in that we can all imagine many cases in which life is so intolerable, so painful, . . . , that we would not wish to live such a life and that it is reasonable to suppose that no one would." Another part of Harris's argument for selective infanticide (in his book) rests on the claim that "bringing about a slow and distressing death would be more rather than less brutalising than would a quick and merciful killing". This, of course, ignores the ability of medicine to provide effective palliation in most circumstances, and transfers the responsibility for death and illness from nature and disease onto those physicians who are trying to ameliorate the lot of humanity. Harris's dismissal of Lorber's fears that the legalisation of active euthanasia could lead to abuses as in Nazi Germany rests on his apparent ignorance of the Nazi doctrine of race hygiene, the "mercy killing" of "biologically defective" children, which is quite distinct from their policy of extermination on the grounds of racial inferiority or of politics.

Finally, we will briefly mention the contribution by Braude (chapter 84) who offers a very readable chapter on fertilisation in vitro, noting some of the ethical issues raised and the practical consequences of developing such technologies: "the very availability of new reproductive technologies, such as IVF, is coercive and infertile couples are vulnerable to new offers whether substantiated or not" (p 988).

In summary this is a fascinating and readable collection of well edited essays for anyone interested in medical ethics. It is expensive, and the long delay between the commissioning of some chapters and final publication means that the book does not deal with some topics of current interest to clinical geneticists. In all other respects, however, we would strongly recommend it.

ANGUS CLARKE
EVELYN PARSONS

In Situ Hybridization Protocols. Methods in Molecular Biology No 33. Editor K H Choo. (Pp 515). New Jersey: The Humana Press. 1994.

For once the press release appears to be true: this is indeed the only book of protocols to date to cover such a wide range of in situ hybridisation methods in such a straightforward and accessible way. Traditionally, in situ hybridisation histochemistry, and chromosome in situ hybridisation have been treated separately, presumably because the background knowledge and skills required are so different. This publication recognises that the applications for in situ hybridisation techniques are increasing over a wide range of specialist fields. The protocols presented here are accessible both to researchers who are new to in situ hybridisation, as well as those with experience who wish to diversify.

Part I consists of protocols and (appropriately) makes up the majority of the book (chapters 1–28). Part II contains reviews and applications for previously given techniques (chapters 29–33). In part I there are several chapters dealing with different aspects of fluorescent in situ hybridisation (FISH). Chapters 1–3 are all based around chromosome painting, with methods for the generation of chromosome specific paints using whole chromosome libraries and Alu-PCR of somatic cell hybrids, as well as reverse painting using DOP-PCR amplification of small numbers of flow sorted chromosomes. FISH mapping using single copy probes is dealt with in several chapters. In particular, Heng and Tsui give an excellent overview of FISH mapping techniques using a variety of cloned probes ranging in size from mega YACs to cDNAs. In addition, they present detailed discussion points for optimising simultaneous DAPI banding on hybridised chromosomes.

There are several useful chapters on the generation of probes for FISH by PCR, including alphoid DNA probes and Alu-PCR amplified YAC probes. Two chapters are given for YAC-FISH using Alu-PCR amplification. One describes a method for amplification directly from yeast colonies: this is extremely rapid and convenient, especially for laboratories without facilities for pulsed field gel electrophoresis, but its accuracy for the detection of YAC chimaerism is not known. The second chapter outlines a method for amplification from genomic yeast DNA using two Alu primers, and gives examples of applications for this technology in tumour cytogenetics. There are two chapters dealing with mapping by extended DNA preparations, both by the originators: (1) free chromatin preparations (Heng and Tsui) and (2) DNA-halo preparations (Raap and Wiegant). These techniques are an essential part of any state of the art FISH mapping repertoire, and these chapters give practical details not necessarily present in the original publications.

The technique of DNA primed in situ labelling (PRINS) is an attractive alternative to conventional in situ hybridisation, allowing simultaneous labelling of probe and hybridisation to target DNA. The advantages of this approach are the lack of a need for cloned probes, and the ability (at least in theory) to use small probes for the detection of small sequence variation. This technique is presented here by its inventor (Jan Koch), and includes the latest developments in multicolour PRINS and single copy sequence detection. There is also a chapter on RNA-PRINS, a modification of in situ transcription. This technique uses biotin-labelled nucleotides as substrate for reverse transcriptase, and has the potential for analysis of different RNA classes. The number and variety of highly specialised techniques is quite overwhelming, and too great to allow specific reference to each one here. There are chapters on hybridisation histochemistry for the detection of viral genomes (three chapters), PCR in situ, hybridisation to *Drosophila* and other dipteran species, to meiotic prophase chromosomes, and to individual chromosomes in sperm. The detection of mRNA in tissue and cultured cells is well covered (five chapters) and includes quantitative mRNA analysis, whole mount analysis, and subcellular localisation by electron microscopy. In part II, the sections I found most useful were the chapter on digital imaging and processing, an excellent summary of the principles and practice of modern CCD and confocal imaging systems, and the very comprehensive overview of the identification of human marker chromosomes.

Overall, the figures, illustrations, and diagrams are clear and easy to follow. Surprisingly, I found the colour plates a little disappointing: this may be because of their reproduction to such a small size, but in any case does not detract from the book's primary purpose as a methods book. Because each chapter is written as a separate entity, there is considerable overlap between protocols. This can become a little repetitive (there are at least six methods for nick translation alone). However, the advantage of having separate contributions from such a distinguished list of authors is in the "notes" at the end of each chapter: this type of anecdotal information is never accessible through the original publications. Although normally reluctant to change my own tried and tested methods, I found my review copy very handy, and have already been inspired to try some of the protocols mentioned. The cost is reasonable; I think that the range of techniques and the style of presentation make this an invaluable addition to any research establishment.

LYNDAL KEARNEY