Heredity **68** (1992) 287–288

Book reviews

Genetically Engineered Organisms: Benefits and Risks, J. R. S. Fincham and J. R. Ravetz. John Wiley & Sons, Chichester. Pp. 158. Price £7.50, paperback. ISBN 0 471 93217 5.

History has generally shown us that mankind introduces new technologies with little concern for their impact on nature or society. For instance, the advent of the stone axe, while invaluable as a tool, also raised the stakes in the primitive arms race so that the development of copper and bronze instruments was inevitable. The introduction of a factory system for producing manufactured goods increased productivity, but added the burden of pollution to the environment from which we have still to recover. Fortuitously, this headlong rush into new technologies without due assessment of the risks involved is starting to abate. The realization that we have only one planet to call home is beginning to dawn on the population and safeguards against future environmental disasters are demanded. This new realism is reflected in the subject matter of the book under review, namely the use of genetically engineered organisms and the associated benefits and risks. The book reflects the outcome of the activities of the Working Party convened by the Council for Science and Society. The aim of this group was to consider the consequences of genetic engineering in its various guises in industry, agriculture, medicine and veterinary practice. They have presented their views in a concise, but comprehensive format which addresses the use of genetic engineering in each of the above areas. The book widely begins with two chapters which deal with general concepts of genetic engineering (Chapter 1) and the basic concepts of molecular biology (Chapter 2). These are sufficiently detailed to provide the necessary background to the later chapters. Chapter 1 also makes the useful point early on that it is becoming difficult to distinguish between new methods based on genetic engineering and more 'conventional' approaches. It is important for the reader to appreciate that it is the end result that is important, not the way in which it was achieved. The subsequent chapters describe the use of genetic engineering in industry (Chapter 3), agriculture (Chapters 4 and 5), animals (Chapter 6), the production of vaccines (Chapter 7) and applications to the human genome (Chapter 8). In places there is some repetition of material. For example, in both Chapters 3 and 6 the problems associated with bovine growth hormone are discussed. This is a minor criticism and does not detract from the quality of the presentations.

Chapters 9 and 10 deal with the thorny issue of risk assessment and how to manage uncertainties. The procedures for assessing risk/damage/access for genetically engineered micro-organisms are described and comment is made on the apparent arbitrary nature of the risk categories. As the authors state, these categories are not intended to represent actual risk, more to provide an adequate safety net for *possible* accidents. The authors also take a sideswipe at the demise of more traditional topics for research, such as taxonomy and ecology. Quite rightly, they point out that many of the questions posed concerning risk assessment can only be answered by experts in these fields.

I enjoyed reading this book. It provided food for thought and covered an extensive range of issues. It should be of benefit to undergraduates bemused by the complexity of the field, and to more mature scientists who wish to have an update on the topic. The length is conducive to reading from cover to cover in a couple of sittings. Unlike some books which have emerged from various meetings concerning risk assessment, it does not daunt the reader with technical detail.

ROBERT D. POSSEE
Institute of Virology
NERC
Mansfield Road
Oxford
U.K.

Catalog of Chromosome Aberrations in Cancer (4th edition), Felix Mitelman (ed.). John Wiley & Sons, Chichester. Pp. 2,056. Price £160.00, hardback (two volumes). ISBN: 0 471 56087 1.

Felix Mitelman has succeeded in preparing another extremely useful update of *Chromosome Aberrations in Cancer*. This is an essential reference book for both clinicians and research scientists working in the field of solid tumours and haematological oncology. The departments involved in this work would be well advised to have a library copy available.

The catalogue is presented in two sections covering chromosomes 1–12 and 13–22 and the sex chromosomes. This recent edition also includes data on homogeneously staining regions (hsr), double minute chromosomes (d min) and ring chromosomes (r). The layout of data with regard to solid tumour diagnosis is much improved since the last edition. Each chromosome entry provides the most recently published data on neoplastic karyotypes with information on the breakpoints and structural rearrangements, tumour sites and references. In this edition, Felix Mitelman has made a point of including only those karyotypes that have been published and have gone through the referring procedures. Furthermore, he has excluded karyotypes from previous meeting abstracts and personal communications. This edition includes, for the first time, molecular investigations on cancer-associated chromosome aberrations. Clearly, this

is an area of research that is very much in its infancy but one which will constitute a more important part in future editions.

My one reservation about this catalogue is its sheer size, and the difficulties involved in selective data retrieval. As the number of cytogenetically abnormal chromosomes has increased by over 50 per cent since the last edition in 1988, I feel that it is now time for the author and publishers to make the *Catalog* available in the form of CD-ROM (compact disc). As CD-ROM hardware is now available in the majority of academic libraries and research institutions, the data retrieval could be tailored to each user's specific needs.

JOHN FIELD
Department of Clinical Dental Sciences
Liverpool University
Liverpool
U.K.