Book Reviews

Cancer and Radiotherapy—A Short Guide for Nurses and Medical Students. Ed. J. Walter. (1977) Edinburgh: Churchill Livingstone. 271 pp. £3.95.

This book by Dr Walter is a welcome revision of the previous edition. The book is a remarkably comprehensive review of cancer and radiotherapy. It is mainly aimed at nurses and medical students, but could well be recommended to others interested in obtaining an initial view of the subject.

The book is usefully complete in many aspects of oncology, although the author’s own interests obviously play a considerable part in the emphasis. It would be easy to pick out points with which the reviewer disagrees, but these are in detail rather than in general principle.

This book should not be regarded as a treatment manual, but fulfils the purpose for which it was written extremely well. In such a context it can be highly recommended.

N. M. Bleehen

Air Pollution and Cancer in Man. Eds. V. Mohr, D. Schmahl and L. Tomatis (1977). Lyon: International Agency for Research on Cancer, Scientific Publications No. 16. 328 pp. US $35.00.

This book contains the collection of papers presented at the Second Hanover International Carcinogenesis meeting which was held in October 1975. The delay in publication seems unnecessarily long. Such delays always detract from the value of proceedings, counteracted by the advantage of having within a single volume papers of related interest.

The first part of the book is concerned with the study of car exhaust fumes, undertaken in the Federal Republic of Germany. Procedures for collecting exhaust from petrol-engined vehicles are described, and the condensates are analysed for selected polyaromatic hydrocarbons (PAHs) and by recognition-profile techniques. The effects of the skin painting of exhaust condensates and various extractable fractions of these condensates are compared. There is a description of an apparatus for inhalation experiments, but no results are presented. Various other animal experiments involving car exhausts are presented and some model studies of possible syncarcinogenic action of PAHs. A review of the carcinogenicity of the car-exhaust studies carried out in the USSR, concentrates on benzo(a)pyrene. There is a useful paper on the means of assessing the priority afforded to bioassay of contaminants. Procedures for ranking the compounds are given, taking into account extent of human exposure and similarity to other compounds of known toxicity.

The second section of the book concerns the monitoring and registration of carcinogenic substances in air, and contains contributions from the European Communities, U.S.A. and Scandinavia. The emphasis is no longer on PAHs, but also includes organic compounds such as the halogenated hydrocarbons and nitrosamines, the inorganic gases and particulate irritants.

The section on epidemiology is restricted to lung cancer and its relationship to air pollution. A review of this topic embracing world wide observations is followed by papers relating to studies of the U.S.A., Italy, Scandinavia, U.K. and U.S.S.R.

I notice that the most difficult topic, that of relating animal experiments to the human situation, is dealt with last. The limitations of such studies, and indeed their value is well summarized by Tomatis.

T. A. Gough

Clinical Radiobiology. W. Duncan and A. H. W. Nias (1977). Edinburgh: Churchill Livingstone, 226 pp. £9.50.

This book is the first to cover the syllabus in radiobiology set by the Royal College of Radiologists for future members in training. It also joins a few other recent volumes in the attempt to distil the radiobiological principles involved in radiotherapy.
This book has the advantage over others in that the authors have a good knowledge of both sides of the fence. It is well produced and presented. The pattern largely follows that in the syllabus, and in at least one intensive lecture course arranged to cover it. There are 15 chapters, beginning at the fundamentals and ending with clinical aspects. Biophysical and biochemical events are followed by their consequences in cell cycles, survival curves, and recovery from damage. Cell populations, both normal and malignant, are discussed in terms of their kinetics, and their response as both early and late damage. Other late effects, genetic and somatic, are covered in a further chapter. Fractionation, clinical applications, and developments conclude the volume. A short reference list follows each chapter, with one general reference for further reading. Numerous figures are culled from the literature, and additional graphical illustrations assist the explanations.

The common problems of omissions and inconsistencies have been reduced here by the help of a knowledgeable reader for the manuscript. Those that remain are especially annoying when they are contradicted elsewhere, e.g. the statement that 'repair of sub-lethal damage occurs only in cycling cells'. Such points of course will test the diligent student, but they may be confusing if regurgitated in examinations and if retained for future use. When jargon is introduced before its definition in context, a reference is usually given to this definition, which is very helpful. Two exceptions to this are DNA and stem cell, and the latter receives no proper definition at all. Also, other definitions, fundamental to a proper understanding of the subject, are often incomplete in depth. Although references dated 1976 are given, the addition to the syllabus in 1975 of the biological basis of chemotherapy as a major subject seems to have gone unnoticed. Thus, the treatment of this field is rather skimpy, and it does not receive the emphasis it now requires.

This book will indeed save teachers effort in collating the majority of material which covers the syllabus, and it will give the student most of the necessary information in a single concise volume. Whether it will help the student to a needed better understanding of the radiobiological principles of radiotherapy than demonstrated in previous years, will become clear in the future.

J. H. Hendry