presence of nitroso-compounds is given for human and animal foodstuffs, in tobacco smoke, in the laboratory and factory environments and in confined spaces (such as inside new cars). An examination of the fate of ingested nitrate and nitrite in man and a variety of other organisms suggests that the ratio of nitrate excreted in urine to the total amount ingested is influenced by the degree of reduction to nitrite within the organism, thus indicating the possible in vivo formation of nitroso compounds.

The section Experimental Pathology includes a comparison of the degree of skin penetration by nitrosamines of environmental importance, and an interesting series of experiments suggesting that very low levels of other chemical carcinogens can contribute to the carcinogenic action of a nitrosamine.

The volume ends with a very short, but useful, set of suggestions indicating priorities for future work under the 4 main topics considered.

P. J. O'CONNOR

Cloning of Human Tumour Stem Cells.

Ed. S. E. SALMON (1981). New York: Alan R. Liss Inc. 367 pp.

This volume deals in depth with a topic which is of considerable interest both to basic scientists and clinicians working in the field of cancer chemotherapy. It contains 23 chapters dealing with all aspects of cloning and drug-sensitivity testing of human tumours in vitro. However one cannot avoid the feeling that a somewhat biased view is presented since 13 of the 23 chapters are co-authored by the editor S. E. Salmon, and most of the other 10 chapters are written by members of the same group. From the data presented in the various chapters it is obvious that the Arizona group has had considerable success in cloning human tumours of a variety of histological types, and in using measurements of their drug sensitivity in vitro for both retrospective and predictive studies of the sensitivity of individual tumours to therapy. However there is little indication in this volume that the methods and results are reproducible in other laboratories. Chapters on the experiences of completely independent investigators would have greatly improved its value. Nevertheless the book represents an impressive collection of data indicating that the tailoring of chemotherapy to the needs of individual patients is a feasible possibility, at least in the hands of some investigators. The extension of such studies to other laboratories should provide valuable information both on the biology and drug sensitivity of human tumours and could considerably improve treatment in the future.

M. Fox

A Short Textbook of Radiotherapy. 4th Edition. J. WALTER, H. MILLER and C. K. BOMFORD (1979). Edinburgh: Churchill Livingstone. 299 pp. £11 net.

This book has been written primarily for student radiotherapy radiographers working for the qualifying diploma of the College of Radiographers. It covers most of the syllabus for this examination in varying depth and should be used in conjunction with lecture notes and reference to other works listed in the bibliography. Ten years have elapsed since the last edition, and the authors have eliminated many outdated practices from the text.

Part I is on radiation physics. The initial chapters cover radioactivity, the production and measurement of X-ray and gamma-ray beams, and their interaction with matter. The physical principles of radiation treatment planning, the use of the simulator and mould-room technique are fully explained. The chapter on the use of sealed radioactive sources includes radon seeds, but does not state that these are no longer produced in the United Kingdom. The Paterson-Parker rules are given for the distribution of sources and dose calculations for surface applicators, interstitial implantation and intracavitary therapy, and afterloading techniques are mentioned. There are 2 chapters on sealed sources. Radiation protection procedures have their due prominence and abstracts are included of the U.K. Code of Practice. The reader is also introduced to recent developments in technology such as ultrasound, computerized transverse axial tomography, and computers for treatment planning and dose calculations.

Part II on radiotherapy and oncology starts with general chapters on “the cancer problem and pathology”. There is an interesting chapter on the public-health aspects of cancer, including cancer education. The
biological effects of radiation are described well in the physics and clinical sections of the book. The principles of treatment and radiation dosage are given, and there follow chapters on cancer in specific sites. Information is given on tumour types, investigations, clinical features, treatment and prognosis. Radiation techniques are described and the reactions that may occur from radiotherapy. There are diagrams of megavoltage treatment plans for many sites. The role of surgery in certain types of cancer is indicated, but there are no details of surgical treatment. Hormones and cytotoxic drugs are mentioned where applicable, but there are also separate chapters on hormone treatment and cytotoxic chemotherapy. A short chapter suggests the present place of radiotherapy for non-malignant disorders. The reviewer regrets the omission in this edition of a chapter on the duties and responsibilities of a radiographer.

The book is well produced, but soft covers will shorten its library life. The type is clear, there is a good index and there are numerous diagrams. Many photographs and radiographic reproductions have been omitted from this edition, no doubt as an economy measure. The text has been updated and covers a wider field than previously, so matching the requirements of the present-day radiographer. The book will continue to be invaluable for therapy radiography students, and each should possess a copy. Nurses, medical students and junior doctors interested in radiotherapy and oncology should find it informative, and the physics section will be useful to medical physics technicians.

M. B. DUTHIE

Ultrasound in Cancer. Ed. B. B. Goldberg (1981). Edinburgh: Churchill Livingstone. 223 pp. £12.95 net.

This is the 6th volume in the series Clinics in Diagnostic Ultrasound, a series designed to provide clinician and ultrasonologist with an up-to-date account of potential uses of diagnostic ultrasound. In this volume there are contributions from experts in the various sub-specialities of diagnostic ultrasound, each author giving a brief outline of techniques available; the ultrasound appearances of different tumours; and the role of ultrasound relative to other diagnostic modalities in his particular area of interest. Inevitably, with a variety of contributors, the style and presentation varies throughout the book, but is generally good.

In all chapters the different types of tumours encountered and their ultrasound appearances are fully described. The chapters on biliary tract, retroperitoneum and paediatrics are rather brief, but this is probably intentional as these areas are covered more fully in other volumes of the series.

The quality of illustration varies through the book; the chapters on liver, paediatrics and breast are particularly well illustrated, and the explanatory line diagrams which accompany the ultrasound images of the eye are extremely helpful. The alternation between black on white and white on black images in some chapters is a little confusing, but this is a matter of personal preference.

In order to make the best use of diagnostic ultrasound, to-day's clinician needs to know how accurate the technique is in each situation, and confronted with so many new complex imaging techniques he also needs some guidance regarding the place of ultrasound in the diagnostic work-up of his patients. Because of the many variables involved, the assessment of accuracy can be difficult. Some of these difficulties are outlined in the first chapter, but it was a pity that in some chapters no indication at all of the potential accuracy was given. The place of ultrasound in the diagnostic work-up of patients is well covered in many chapters with helpful algorithms in the sections on liver and breast, but sadly lacking in others.

Chapter 13, "Therapy", was perhaps a little out of place in a series on Clinics in Diagnostic Ultrasound, but extremely interesting and stimulating nevertheless.

In summary, a good, reasonably priced book which executes well the difficult task of providing a concise review of the potential uses of ultrasound in the diagnosis of tumours.