logical cancer, the meeting of which this book is the proceedings acted as an important focal point for the appraisal of current treatment and research, and provided a forum to discuss new directions for the future. Because of the large number of papers on various bladder-cancer topics (28 chapters on aspects of staging and experimental pathology, 17 on surgical treatment, 9 on radiotherapy, 23 on chemotherapy) most of the chapters are short data presentations, mostly new or an update of previously published work. Bladder cancer is a disease which is predominantly managed by surgeons. The chapters on the variety of surgical approaches possible are well presented, but the format of the chapters gives little chance for an overall appraisal of the relative merits of different approaches. Perhaps the most fundamental question raised was the relevance of lymph-node clearance at cystectomy. Although many European and American surgeons prefer the radical technique because it simplifies the access to remove the bladder, there is no data to demonstrate its superiority over simple cystectomy. The data reported from two Dutch groups in fact demonstrates that, as in carcinoma of the breast, the results from the simple operation are as good and suggest that there are less post-operative complications.

The papers on radiotherapy were not as extensive as on surgical aspects, but there are good contributions on the relative merits and pelvic complications from use of 6 MeV linear accelerator and Cobalt-60 therapy, demonstrating the normal-tissue-sparing effect from the former.

Chemotherapy for treatment of advanced bladder cancer is not new, but only recently has it become clear that this disease is as chemoresponsive to single-agent therapy as breast and head and neck tumours, justifying trials of adjuvant therapy. Two pilot studies with encouraging results are reported, but it will be several years before data is available from controlled trials.

Intravesical topical chemotherapy of superficial tumours has a long history, and although new information demonstrating activity of adriamycin and cis-platinum is presented, all agents tested to date have about the same level of activity. The lack of advantage of these new drugs over the cheaper, long-established agents Thiotepa and Epodyl, makes it unlikely that they will be first-line treatment.

Compared to the extensive data on bladder cancer in this book, there were only a few papers on cancer of the prostate (10, 4 of which dealt with aspects of hormone receptors) and 2 papers on testicular tumours. The most important of these papers is an update of information from the Veterans Administrative Prostatic Cancer trials, which have caused considerable controversy in the U.S.A. by suggesting that there is no place for radical surgery or early adjuvant endocrine manipulation in this disease.

Although this book will probably be of greatest value to surgeons in training or involved in clinical research in urological tumours, the fund of information and references will be of considerable interest to radiotherapists and oncologists needing an introduction to the treatment of urological cancer.

R. J. D. Oliver

Fast Neutrons in the Treatment of Cancer. M. Catterall & D. K. Bewley (1979) London: Academic Press. 394 pp. £22.40.

The cyclotron at the MRC Cyclotron Unit at Hammersmith Hospital in London has now been in use for 25 years, as a source of radioisotopes for research and clinical use, as a research tool for radiobiologists and as a neutron source for radiotherapy. This book gives an account of the pioneering work of the Hammersmith team in developing the physical and biological background for neutron therapy, and the subsequent 10 years of clinical experience and clinical trials.

The first 3 chapters, on the discovery of the neutron and the development of the medical cyclotron, the production of neutron beams, and the interaction of neutrons with matter; dosimetry; depth-dose, give a wide-ranging review of these basic topics with adequate references to the now extensive literature. Chapter 4, on radiobiological aspects of neutron therapy, gives an account of the basic radiobiology of fast neutrons, and develops the biological arguments which justify clinical experiments on the use of fast neutrons for the treatment of cancer. Quite properly, the emphasis in these chapters is on the work done at Hammersmith Hospital, as this has provided the basic data on which
the clinical work described in subsequent chapters is based.

Chapter 5, on techniques of treatment, discusses the uses of the fixed horizontal beam of neutrons, with “poor penetration, rounded isodose curves, rather wide penumbra, high skin dose” and the ingenious methods that have been developed to overcome these limitations. The chapter discusses the use of bolus, wedge filters and field shaping devices, patient immobilizing systems and verification films (neutrograms) for the careful design of individual treatments with the 7MeV (mean energy) neutron beam available from the cyclotron. As neutron beams are always accompanied by γ-rays, there has been much discussion of methods of specifying the dose delivered in a neutron-beam treatment, and this chapter describes and justifies the Hammersmith system of quoting the neutron dose only. In these terms, most of the treatments described in the clinical chapters have received a standard regime of 15-6 Gy of neutrons to the tumour, given in 12 fractions over 26 days at 3 fractions per week. The accompanying small dose of γ-rays is regarded as negligible, because of their low RBE in comparison with the neutron component. The 3 fractions per week regime was dictated by the availability of the cyclotron.

The chapter on design of clinical investigations describes observations on skin reactions, and malignant skin nodules when given fractionated irradiation neutron beam. Estimates of the clinical RBE, and the subsequent standard dose regime were based on these observations. This chapter lays emphasis on the need for detailed accurate and frequent recording of patient reactions and responses.

The 6 clinical chapters give very detailed accounts of the techniques and results of treatments, for head and neck, the brain, the thorax, the abdomen and pelvis as well as a chapter on very large tumours, sarcoma, chordoma, breast, melanoma, and recurrent tumours. These chapters are well illustrated with treatment plans, tabular material about reactions, complications and results, and many before and after pictures. The results of two prospective clinical trials comparing neutron and photon treatments for brain and for head and neck tumours are given. For the brain trial there was no significant difference between neutrons and photon treatments, in terms of tumour regression or patient survival. In the head and neck trial, there were about 80 patients on each of the neutron and photon arms, and complete tumour regression at about 60% and 25% in the neutron and photon arms was highly significantly different. It should be emphasized that these results were obtained with patients with relatively advanced disease. Very little information is given about the patients, the techniques of treatment, or doses in the photon arms of these clinical trials, and this makes it difficult for the reader to arrive at a critical judgement of the results. It might also be considered that the use of a standard dose for all the neutron treatments limits the usefulness of the clinical observations. This point is to some extent taken up in Chapter 14, which considers the reactions of tumours and normal tissue to this standard dose of neutrons. It is considered that, at a non-statistical level, many types of tumour show a marked improvement in local control when irradiated by neutrons rather than photons. The complications observed in normal-tissue reactions are discussed, and are considered to be in part because the available neutron beam is comparable to a 250 kV X-ray beam in penetration and beam definition, and in these respects, as well as in terms of beam mobility, is very inferior to what is currently available for megavoltage X-ray therapy. The reduced absorption of neutrons in bone is, however, an advantage and may reduce the incidence of bone necrosis, while increased absorption in fat may lead to increased problems with fibrosis. This chapter also includes a brief review of other recent clinical trials in neutron therapy, all of which are at an earlier stage than the Hammersmith work. Although most of these trials are far from completed, the results at other centres show a greater proportion of residual and recurrent tumours and that observed at Hammersmith. However, the authors are of the opinion that the omens are still favourable for neutron therapy.

The final chapter, “Lessons learned and the way ahead”, emphasizes that good local control of advanced tumours requires extreme care and attention to details, and pursues this idea at some length. The authors are of the opinion that neutron therapy can only be adequately tested by using a high-energy cyclotron which will give neutron beams of comparable penetrating power and steerability to those available for photon therapy.

This book is well produced, and well illustrated by photographs, graphs and tables.
The authors' enthusiasm for their subject comes through in the quality of the writing, and their book will become part of the required reading for anyone who wishes to take a serious interest in neutron therapy.

D. Greene
R. S. Pointon

Cancer Treatment. Ed. C. M. Haskell (1980) London: W. B. Saunders & Co. 1133 pp. £27.75.

Cancer Treatment was written as a succinct "state of the art" book for physicians who are responsible for the overall care of patients with cancer. The multidisciplinary nature of modern therapy is emphasised by Charles Haskell and his colleagues from Los Angeles. Part 1 of the book deals with the disciplines relevant to cancer therapy, including surgery, radiation therapy, chemotherapy, and immunotherapy. The disease-orientated chapters which follow in Part II discuss the contemporary role of each of the oncologic specialities in cancer treatment. Part III deals with selective complications of cancer and its treatment. The contributors are to be congratulated on producing reviews which are clear, easily read, comprehensive and unbiased. The limitations of certain experimental therapies are clearly stated. It was disappointing, however, that less than 1 page was devoted to discussion of the role of adjuvant chemotherapy in breast cancer. There is good practical advice on the management of bone marrow failure, malignant pleural effusions, superior vena cava obstruction, para-neoplastic syndromes, pain, rehabilitation, and last but not least psychosocial problems.

This book succeeds in its aim and is the best of the recent publications on clinical oncology. It can be strongly recommended to all interested in the management of patients with cancer.

J. H. Scarffe

Preleukemic Disorders. L. Kass (1980) Springfield: Charles C. Thomas. 189 pp. Price £21.75.

The purist will define the term "preleukaemia" as the haematological syndrome which precedes overt leukaemia, but which is not, at the time, diagnostic of it. For many years, haematologists have been aware that abnormalities such as unexplained red-cell macrocytosis, cytopenias, monocytosis, morphological abnormalities of monocytes and granulocytes, often accompanied by evidence of disordered maturation of one or all cell lines in the marrow, may be prodromas of myeloblastic leukaemia or its morphological variants. Some, though by no means all patients with these abnormalities will eventually develop leukaemia, and some authorities have criticised the term as being valid only as a retrospective diagnosis. The label has now, however, been used to cover a wider spectrum of blood and marrow pictures which, together, are frequently referred to as oligoblastic or "smouldering" leukaemia. This is logical because they merge imperceptibly into the less specific features of the original preleukaemic syndrome, the main difference being that they show a definite increase in marrow blasts. In a sense, they might be regarded as differing from acute leukaemia quantitatively rather than qualitatively. After enumerating the blood and marrow findings of the non-specific pre-leukaemia syndrome, the present volume reviews in detail the 3 major morphological variants of oligoblastic leukaemia: "primary acquired panmyelopathy with myeloblastosis" (also known in the European literature as "refractory anaemia with excess of blasts") erythro-leukaemia, and subacute myelomonocytic leukaemia. As well as a description of the distinctive morphological features, as seen by electron and light microscopy, Dr Kass discusses the cytochemical, metabolic, cytogenetic and possible pathophysiological abnormalities which characterise each type. Although some of the material has appeared in the author's earlier book on refractory anaemias, the chapter on erythroleukaemia is excellent, and includes a topical discussion of the virus-induced disease seen in mice.

The difficulty is in knowing whether these morphological entities are also clinical entities or part of a continuous spectrum of myelodysplasia which results from leukaemic transformation of the haemopoietic stem cell; the precise picture which results may depend as much on micro-environmental influences as on the intrinsic behaviour of the leukaemic cell line; in this context, a parallel might be drawn with the chronic myeloproliferative disorders.