**Book Reviews**

**Breast Cancer Research**—UICC Technical Report Series Vol. 27. Ed: M. J. BRENNAN, (1977) Geneva: UICC. 125 pp. Free

This book reviews a workshop held in Geneva in 1977 to discuss the pathogenesis of human breast cancer in relation to hormonal status, immunologic status and possible viral aetiology. Approaches to breast-cancer screening were also discussed in the light of known epidemiological data. In addition, growth rate in association with hormonal receptor status, and the more general topic of the preferred experimental animal systems for the study of human breast cancer were discussed in some detail.

The contributors represent a formidable array of experts within their own fields in relation to breast cancer, and this is reflected in the quality of the review and subsequent discussion.

Overall, this short booklet, with its excellent bibliography, represents a concise summary of present-day biological thinking in the development of human breast cancer, and points to future areas of potential interest in viral and hormonal pathogenesis and host immunoreactivity.

H. Bush

**Growth Kinetics of Tumours.** G. G. STEEL (1977) Oxford University Press. 351 pp. £15.00 net.

A good feature of this book is that its author is realistic, always ready to admit that tumour-cell kinetics are not yet the saviour of the cancer therapist. Particularly welcome is that the author is always careful to examine the problems, both practical and theoretical, is constantly aware of the danger of introducing artefact, and makes clear and precise statements of his use of often ambiguous terminology. A glossary of terms at the end is a valuable appendix. On the whole it is well written and in good English, though there is a disturbing number of uncorrected printer's errors.

From the outset Steel makes clear that frequently passed transplanted tumours are of very doubtful value in analysing the relationship of tumour-cell kinetics to cancer treatment. Consequently, a large part of the book is devoted to reviewing the kinetics of human and primary experimental tumours. In a logical and incisive manner, the chaotic mass of the results emerges. The author maintains some optimism, but concludes that “Until progress has been made in refining cell-kinetic measurements, it is much too early to assess their potential impact on treatment”. Demonstrations of the virtual impossibility of measuring tumour growth-rate, the gross variations in inter-mitotic times in tumour cells, problems in measuring growth fraction and cell-loss factors, all add weight to the validity of both this statement and another: “unrewarding to attempt to predict . . . on the basis of . . . labelling index, growth fraction or cell cycle-time”.

Steel is at his happiest when he can enlist the aid of mathematics, and thus he includes 2 good chapters on the theory of growing cell populations and the computer simulation of cell-kinetic models; amply illustrated by the simulation of labelled-mitoses curves. He makes an excellent case for the idea that “Models are more than play-things” but this reviewer would like to temper his enthusiasm with Kember’s (1969) conclusion to an article “Growing bones on the computer” (Cell Tissue Kinet., 2, 11), which read “Titillation of computer programmes is a poor excuse for avoiding the hard work of practical experiments in cell kinetics”. Yes, simulation is one thing: extrapolation can be dangerous.

The main problem with a single-author work of this magnitude must, however, be the difficulty of keeping it up-to-date. Its stated objective is “the status of experimental research”. A survey of the 650 references shows that 9% are pre-1960, a period of minimal activity in cell kinetics, while only 7% are post-1974 (with none in 1977). Furthermore, of the articles referenced in 1975–6, 42% are from the author’s laboratory, or from people quoted in the acknowledgements, compared with an average of 13% prior to 1975. Thus
the book, effectively published in 1978, is at once 3 years out-of-date. I recently reviewed a multi-author symposium on the same topic. Dated 1976 and published early 1977: this contains more recent developments. In measuring tumour size, one sympathizes and agrees with the author’s recommendation to accept classification by reference to the size of hen’s eggs: large, medium or small. This again dates the book, because EEC regulations now require eggs to be graded on a numerical scale.

This book should be read by both experts and newcomers; the technical parts of the book are superb. But be warned. They may put you off!

B. I. LORD

L’Evolution des Cancers Eds. C. LAGARDE, B. HOERNI, and M. DURAND (1977) Paris, New York: Masson, 181 pp. 110F net.

This small volume sets out to provide a general review of the behaviour of tumours, in their premalignant phase, their untreated state and in their relation to therapy. Aetiology and pre-cancerous conditions are discussed, and the spread of tumours by various routes reviewed. Approaches to pre-therapeutic patient assessment concludes the first section, which deals with tumour localisation, spread and detection. The second section considers tumour growth, behaviour following treatment, prognosis and criteria for survival and cure.

This slender volume has tackled the greater part of the cancer field, an attempt at brief synthesis which might well have proved to be too superficial to be of interest. However, the authors have managed to introduce the reader to a range of relatively recent developments, such as the work by Folkman on tumour angiogenesis and Fialkow on the clonal origin of tumours, although for some reason they unfortunately have not discussed tumour markers.

This book will be of interest as an introductory review for clinicians entering the field of oncology, and to non-medical scientists.

M. J. PECKHAM

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man: Vol. 15: Some Fumigants, the Herbicides 2,4-D and 2,4,5-T, Chlorinated Dibenzo- dioxins and Miscellaneous Industrial Chemicals. (1977) Lyons: IARC. 354 pp. U.S. $20.00 net.

The 15th volume of this series covers 18 chemicals or chemical classes, and brings the total of chemicals reported to over 260. Of particular interest in this volume are the monographs on dioxins (of recent interest due to their remarkable biological properties) 2,4-D and 2,4,5-T (widespread use) hexa-methyl phosphoramidé (of carcinogenic potency) and isopropyl alcohol (in large-scale production).

Each Monograph reviews data on the chemical and physical properties, production occurrence and use, analysis, animal carcinogenicity, other toxicological information of relevance (acute and chronic toxicity, teratogenicity and mutagenicity) case reports and epidemiological studies. Finally, there is a summary of the animal and human data.

This Monograph series is recognized for its comprehensive, accurate and up-to-date review of the published work on the carcinogenicity of chemicals. This volume will follow its predecessors as an invaluable reference work for scientists, industries and governmental and international agencies concerned with assessment of the risk and benefits of using these chemicals. If, however, readers expect that the Monographs will provide for each chemical a comprehensive assessment of risk, they will be disappointed. In the first place, for many of the chemicals there are remarkably sparse carcinogenicity data. The animal carcinogenicity data were absent, or insufficient to make an assessment of carcinogenicity, in 10/18 Monographs in Vol. 15, and in only 4 were human data reported. Secondly, the evaluation of risk to man, the aim defined in the title of the Monograph series, requires that data on the human toxicity inherent in the chemical and on the particular circumstances of its use are taken into account. The Monographs do not provide a synthesis of the potency, relevant physical properties and likelihood that the chemical will be carcinogenic in man, which would define its inherent toxicity. To use the Monographs to provide an assessment of risk, admittedly a difficult task, the reader will need to be an expert, capable of evaluating the inherent toxicity and relating it to the circumstances of use. In this sense the title of the series is misleading.