Book Reviews

Principles and Perspectives in Drug Bioavailability
Edited by J. Blanchard, R. J. Sawchuck and B. B. Brodie
S. Karger, Basel, 1979
336 p., 51 figures, 19 tables

With the increased awareness of drug bioavailability as an important therapeutic and economic consideration in health care, this book provides a timely and pertinent assessment of the present state of the art of drug bioavailability. The fourteen contributing authors, representing academia and the pharmaceutical industry, have produced a volume that has balance, continuity, and clarity of style.

The scope of this work is impressive – topics range from federal regulation which oversees drug product quality to the use of in vitro models for assessing drug absorption. Two chapters trace the history and development of the various factions -government agencies, consumer groups, organized medicine and the pharmaceutical industry – which are presently debating issues such as generic prescribing and drug quality. Two chapters review the fundamental physiochemical and physiological processes which affect the rate and extent of drug absorption. In the former, drug dissolution theory and in vitro dissolution methods are considered while in the latter chapter physiological variables which influence drug absorption such as disease states, food and other drugs ingested are discussed.

Complimenting these chapters is a section analyzing the influence of formulation and processing variables, such as excipients, compression forces and coatings, on bioavailability. A major portion of this book is devoted to methodologies for assessing drug bioavailability. This is perhaps the most important contribution of this work. Methods are described, illustrated, and referenced for a spectrum of bioavailability studies ranging from measuring tablet disintegration times to bioequi-valence trials in human subjects.

The subject matter is well referenced; there are over 900 references which provide a thorough, but not exhaustive review of the current literature in the field. Similarly, figures (there are fifty-one) and tables (there are nineteen) are used judiciously but effectively to illustrate and summarize.

To this reviewer, the organization of the book appears arbitrary. For example, the two chapters on the regulatory aspects of bioavailability are dealt with in the first and in the last chapters. Similarly, principles of drug absorption are discussed in the second chapter while the chapter on physiological factors affecting drug absorption does not appear for another six chapters. However, this is a very minor flaw in a very good book.

Principles and Perspectives in Drug Bioavailability would be a very worthwhile addition to the library of any serious student of the therapeutic use of drugs. Pharmacists, pharmacologists and physicians alike would profit from a reading of this concise but thorough treatment of drug bioavailability.
Unfortunately, the price of $58.75 probably puts this book out of reach of all but the very serious student of drug bioavailability. This is unfortunate since the basic principles so well covered in this volume should be made available to all those involved in the clinical use of drugs.

Gary L. Henderson, Ph. D.

Aspects of Cancer Research 1971-1978: Editorials from The Journal of the National Cancer Institute
Department of Health Education,
Bethesda 1979
531 pp.; % 16.25
ISBN 017-042-00140-4

In 1971, the JNCI initiated a policy of including editorials of interest to its staff, their colleagues, and readership. This volume contains all 73 editorials from 1971 through 1978. The photo offset method is used to reproduce the original editorial. All of the authors were provided an opportunity to write addenda, but only 49 actually updated their opinions. Included among the 92 authors are many scientific giants from seven countries and the United States. A broad range of diverse subjects are included, ranging from a description of a role model for involvement of scientists in anti-smoking campaigns to speculation on the nature of cancer itself. The quality of the editorials varies as do the addenda. The latter vary from a few unenlightening sentences to confessions of error. Seven essayists provide more than one offering. R. W. Miller’s name appears six times and Ernst Wynder’s five. In all, seven scientists contributed more than one editorial. Except for Dr. Stephen Carter, who writes about treatment three times, all the other multiple offerings are by individuals commonly regarded as epidemiologists. Although the editor, Dr. John Bailer, points out that 34 of the 73 essays deal directly with human cancer, only a few of these are provided by clinicians. Included among topics discussed are broad and specific issues in carcinogen-esis including saccharin and asbestos as well as tobacco (many times). In addition, viral and immunologic aspects of oncology, a few comments about advances in treatment, and several editorials on general cancer biology are included.

The volume is as interesting for what it does not address as it is for what it does. Many of the substantive advances of the past decade receive little or no attention while others are reviewed over and over. It is relatively difficult to discern from this volume that it covers a decade in which a true revolution occurred in the treatment of cancer. 50 years from now the reader of this volume will have difficulty discovering from it that it was during the 1970s that 100% of all advanced cancers were rendered curable, that the death rate from pediatric cancers fell by 40% and that from cancer in young adults by 15%. Similarly, although there are four opinions regarding immunodiagnosis, not one is concerned with the most important immunologic advance of the decade, that is, the relationship of lymphocyte ontogeny to the pathophysiology of lymphoproliferative malignancies. Interferon is the subject of one discussion, but hyperthermia, advances in radiation therapy, and surgical contributions to accurate staging are either not mentioned or alluded to only tangentially. Finally, the ability of mammography to detect asymptomatic non-palpable breast cancer, reducing the likelihood of positive nodes from approximately 50% to less than 30%, passes without comment.
It is not hard to discern from this volume how the Congress has gotten the probably mistaken notion that treatment has contributed little to the plight of the cancer patient and that prevention is the bright hope for tomorrow. Highlighting this conclusion is the nature of the editorials on treatment. One has to do with a single drug, Adriamycin, and two others discuss sites, the colon and pancreas, which have seen little progress. It is curious that the editorial concerning improved results in adjuvant therapy of osteogenic sarcoma still attributes the improvement to chemotherapy rather than the early aggressive surgical resection of pulmonary metastases.

In summary, this collection of editorials seems to reflect the interests of a narrow segment of the NCI staff and the cancer research community. It cannot be considered a balanced or comprehensive view of the issues of the decade just past.

John R. Durant, Birmingham, Ala.

R. O. Hynes (ed.)
Surfaces of Normal and Malignant Cells

During the past decade the number of books published on malignant cell surfaces proliferated almost as rapidly as malignant tissue itself. On the surface, most of these books were marred by being collections of loosely related topics by the same authors making their same points in book after book. Fortunately, as the field comes to a plateau phase in its growth, this book does not share this shortcoming of its many predecessors. Thus, this book is ideal for the cancer researcher who has peripheral interest in the cell surface – e.g., an immunologist interested in working on neoplastic cell antigens – but does not wish to go directly to the literature.

The chapters are written so that a critical review is given, in most cases some conclusions reached and even some suggestions for future work presented. The reader should be aware that the majority of the references are current only to late 1977; not a serious flaw. Finally, like in so many other books on this subject, the vast area of physical properties, particularly electrokinetic properties of surface membranes, is not addressed nor are properties such as invasiveness, implantation and metastasis (which indeed define ‘malignant’) correlated with all of the surface alterations. This latter point is addressed by the editor in discussing tumorigenicity but the theme is not followed in the rest of the book.

The book starts out with an excellent introductory chapter by the editor and then continues with a morphologic chapter and three excellent chapters on cell surface glycoconjugates: glycolipids, glycoproteins and glycosaminoglycans (the use of the antiquated term mucopolysaccharide is reprehensible), respectively.

The high point of the book is the sixth chapter ‘Surface Enzymes in Neoplasia’. The following six chapters are of lesser quality and deal with potential control mechanisms residing at the surface, specifically, in their order of appearance: (7) protease, (8) immune reactants, (9) growth control, (10) transport, (11) adhesiveness and (12) development. The last chapter (12) is somewhat of a disappointment dealing narrowly with cell surface and development in Dictyostelium discoideum; this chapter would have been helped greatly by a critical summary or a conclusion section. The book contains a very useful index and most chapters are well referenced except for somewhat of a lack of referencing other reviews. In sum, the book is certainly well edited and
probably represents one of the best of the many on this subject. It should prove of interest to the reader already working in the field and probably is a must for someone wishing up to date information on this important subject.

H. Bruce Bosmann, Rochester, N.Y.