**Book Reviews**


Seventy-five years ago W. Küster published a small booklet containing logarithmic tables for chemists. Since then, due to their popularity and practical value, these tables have been extended more and more and have become a most important laboratory manual for chemists, physicists and pharmacists in their daily analytical and calculative work. After 75 years this book is today a comprehensive tabellarium containing numerous lists and tables giving all necessary data which may be of significance and practical use in every sphere of chemistry. The clear arrangement of the many physical, chemical and mathematical data, which guarantees an easy and fast orientation, is the most valuable feature of this manual. It should, therefore, be recommended for all scientists and laboratory personnel concerned with analytical experiments in chemistry and physico-chemistry.

D. A. Kalbhen, Bonn


Prenatal toxicology is a young and a very complex branch of natural science which studies the effects of exogenous stimuli, especially of chemicals and drugs, on the prenatal ontogenesis of mammals. Its tasks can only be treated by teamwork of chemists, experts on genetics, morphologists, pathologists, toxicologists and animal-breeders as the author postulates. The authors intention, based on his own experimental experiences and on a critical survey of international publications, is to collect facts and information on this field and to demonstrate the biological and toxicological base of experimental prenatal investigation. The problem of the teratogenetic action of drugs urgently requires further approaches in toxicology. The 4 chapters of this book deal with the physiological ontogenesis of mammals, with general and specific prenatal toxicology (unspecific and organospecific actions of substances, biochemical reactions, sensitive phases, teratogenic drugs) and basic methods of prenatal toxicology in experiments on animals (phylogenetic factors, choice of animals, planning, performance and evaluation of experiments of different duration and their results and effects). There is a great number of unsolved problems, for example the important question of the significance of experiments on animals for the prevention of congenital anomalies in man.

O. R. Klimmer, Bonn

According to the early step of the American Pharmaceutical Association (1852), ‘to see that the American public received pure and unadulterated drugs’.

Book Reviews

the Third National Meeting of this Association’s Academy in 1967 was dedicated to the consideration of factors related to the development of safer and more effective drugs. Experts on Pharmacy, Pharmacology, Medicinal Chemistry, Clinical Pharmacology, Oncology and Radiopharmaceuticals contributed 16 lectures, divided into 4 symposia: The first more theoretical symposium, ‘The design of safer and more effective drugs’, was followed by the broad-based second symposium ‘Biochemical and pharmacological studies in drug safety evaluation’, by the descriptive third symposium ‘Pharmacodynamic considerations in the design of safer and more effective dosage forms’ and by the last symposium ‘Quality control in the development of safer and more effective drugs’, where the responsibilities of Industry, Government and Academic Institutions were considered. The meeting concluded with an address on ‘Clinical Investigations of Drugs’. Throughout the Third National Meeting it was established that safe and efficient drug products are scientific discoveries in every sense and can now be produced only by modern scientific methods: ‘Theory guides, experiment decides’, as Dr. Kolthoff accepting the ‘Gold Medal in Analytical Chemistry’ in his address said.

This book is very interesting and worth reading because of its modern and forward-looking ideas.


Whereas the first two volumes of ‘Drug-induced Diseases’ were based on the ‘Boerhaave’ Symposia 1961 and 1964, the present third volume contains 27 papers by experts on more specific subjects of high value to the physician: Not only the adverse effects produced by specific drugs or groups of drugs, but also their pathogenesis and the clinical complications are described and discussed. There is only little reference to the therapeutic value of these drugs. Of the contributions describing undesired effects of drugs we shall refer only to the following: digitalis, diuretics, tetracyclines and other antibiotics, corticosteroids, oral contraceptives, methysergide and the interaction of drugs and alcohol. The problems arising from the adverse effects of old and new drugs are serious. But the physician should not neglect their beneficial actions and not forget that many of the described side effects are relatively uncommon and may be results of overdosage or oversensitivity. This very interesting publication will help the physician to use the effective drugs properly by showing him the different aspects of modern drug therapy. It is also of great value for the clinician and the pharmacologist as a source of reference.


‘The Modern Trends Series’ provides books containing critical essays in specific fields of medicine and concerning recent advances and desirable developments. The editors are preoccupied with the experimental approach, Book Reviews

317
so that this series ‘may provide some means of assessing the possible hazards to man from the various substances in his environment’. In the present volume well-known scientists have accordingly discoursed on techniques, particularly their development, application, limitations and interpretation of results: purpose and value of LD50 determination, percutaneous toxicity, inhalation and reproduction tests, teratology and carcinogenicity, function tests and behavioural studies, antagonism and potentiation of drug action, tests in man, drug safety, food additives and pesticides. Even if the contributions are not the last word on any particular question, the readers may, however, gain from them ‘an insight into what is afoot in this specialized branch of knowledge and also an access to most of the relevant original papers and reviews’. The reader will benefit from this book and feel indebted to the editors.

0. R. Klimmef", Bonn


Three years after the third edition the fourth one has come out in 1968. This well-known and appreciated book deals with selectively toxic agents, i.e. substances injuring cells without harming other, even closely neighbouring cells: drugs used in human and veterinary medicine, pesticides, weed-killers. The author shows that the possibility of selective toxic action is mainly founded on differences in distribution, cytology and biochemistry. The new edition has been much enlarged and brought up to date by rewriting the former and adding new chapters, materials and references in the fields of enzyme and physical chemistry, kinetics, electrically and chemically excitable membranes, and reactions with nucleic acids. This edition again is thought to be helpful and capable of teaching graduated medical and pharmaceutical students, and to be read by post-graduate readers. The present edition, written in the same clear and readable manner as the former ones, will be equally estimated by the readers. 0. R. Klimmef", Bonn


The content of the monograph: purine synthesis, purine interconversion, pyrimidine synthesis, pyrimidine interconversion, transcription and replication, incorporation of analogues, alkylating agents, inhibitors of protein synthesis, purine N-oxides as antimetabolites and oncogens, shows the wide range in the presentation of the facts. The biochemical bases, the known biochemical steps of the intermediary metabolism of the monomeric purine and pyrimidine derivatives are demonstrated, and the sites of action of antagonists are discussed in terms of these reactions. An underlying theme of this book are the interrelationships among various classes of substances and their chemotherapeutic activity. The book presents an excellent and successful attempt in bringing together experimental data and theories and integrating these in a general scope. H. Osswald, Heidelberg

318

Book Reviews

The steady increase of chemicals in the environment of man and in its food and the growing number of drugs involve possibilities of sensitization and a rise of allergic drug-reactions, the first detection of which is most important for the patient. As a consequence, the diagnosis of drug allergy deserves stronger consideration by physicians and clinical pharmacologists. This small book brings in 14 contributions a general introduction into this field of practical medicine with a review of symptoms and modern diagnostic methods. Seven European experts discuss critically their value and applicability. The physician will find here valuable references and recommendations for diagnosis and therapy. O. R. Klimmer, Bonn


The volume contains several very stimulating surveys. In the first contribution Valentine and co-workers discuss the F-pilus of E. coli, which is characterized by the specificity of binding male-specific phages. In subsequent reviews Harley and Lewis describe the physiology of ectotrophic mycorrhiza, Farrell and Campbell thermophilic bacteria and bacteriophages, Trüdinger assimilatory and dissimilatory metabolism of inorganic sulphur compounds by micro-organisms, Rittenberg the roles of exogenous organic matter in the physiology of chemolithotrophic bacteria, and finally Hughes and Wimpenny oxygen metabolism by micro-organisms. All contributions are of a high standard. They cover fully the recent literature and are completed by instructive figures. There is an author and subject index. H. Brandis, Bonn


This book contains original papers presented at a symposium on anaesthetic problems in diabetics, held 1967 at Salzburg (Austria). Research work related to diabetes mellitus is rapidly advancing and many of the up-to-date studies are presented in this digest, e.g.: Pathogenesis of this disease. Bases of diabetes stabilisation for operations. Frequency of manifest diabetes mellitus of the average number of surgical cases. Peculiarities of the anaesthetizing techniques in diabetics. Post-operative changes of carbohydrate metabolism.

The articles and discussions demonstrate that there are no absolute rules for clinical treatment of diabetics under conditions of anaesthesia. Each anaesthetist therefore should evaluate and apply the method according to his own practical knowledge. E. Kreppel, Bonn

Book Reviews

319

Biochemical Aspects of Antimetabolites and of Drug Hydroxylation.

This book contains 22 papers which were presented at two symposia held at the 5th meeting of the Federation of European Biochemical Societies. One of the symposia dealt with the actual problem ‘Application of antimetabolites in biochemical investigations’. There were 6 contributions on thiopurines, allo-purinol, pharmacologically active nucleoside derivatives, folic acid antagonists, and on folate and difolate reduction.

The second symposium was devoted to the theme ‘Hydroxylation of drugs in living organisms’. The matter was treated in 16 papers. Besides general
aspects of hydroxylation – a very important reaction in drug metabolism -
the role of enzymes in the endoplasmic reticulum, the role of microsomes,
enzyme induction, carcinogenic and immunologic actions of oxidation products
and various other topics were discussed. The articles have in part the charac
ter of reviews, in part new results were presented. The volume is not addressed
to biochemists only but will be of interest as well to members of other disci
plines, particularly to pharmacologists. K. Karzel, Bonn
F. H. Dost: Grundlagen der Pharmakokinetik. 2., erw. Aufl. Thieme, Stuttgart 1968. XX + 449
p., 137 fig. DM 98,—.
The first edition of this book, which appeared in 1953 entitled ‘Der Blut-spiegel, Kinetik der
Konzentrationsabläufe in der Kreislaufflüssigkeit’, was the first attempt to depict the processes
of invasion, distribution and elimination of endogenous and exogenous substances on the basis of
a mathematical representation of the concentration curves in the various compartments of the
organism. Meanwhile this book has achieved world-wide recognition as a standard work in the
theoretical and clinical field of medical research and has given rise to the concept of
pharmacokinetics, as an independent branch of pharmacology. Hence, it was logical that the
second edition should be extended to the dimensions of a textbook on pharmacokinetics, in
which the numerous theoretical and clinical contributions to this new science published in the
meantime are extensively reviewed in the appropriate new chapters. In comparison to the first
edition, the construction of the present edition is more precise. It fulfils the requirements for a
profound contemporary textbook in its subdivision into 6 sections viz. Charta (fundamental
concepts), Konstel-lationen (operative application of the basic principles to biological research) ,
Bradykinese (kinetics of delayed drug action), Prakticum (examples of practical applications),
Agenda (selected practical examples of exceptional topical interest) and Kybemetik (simulation
and management of pharmacological problems by means of analogue computers). The work has
been greatly enriched by abundant new paragraphs dealing, for example, with the treatment of
steady state equilibria, including details for the calculation of pool size, turnover and transfer
constants, with the phenomenology of indicator dilution curves, with aspects of interference,
including an excellent discussion of the problems of protein binding, with the theory and
application of the important
320
Book Reviews
rule of corresponding surfaces propounded by the author himself and with
many more themes. On account of the successful attempt to represent pharma-
kokinetische problems in a suitable summarizing form, it has, moreover, been
possible for the first time to give in teaching a scientifically-based theoretical
introduction to general pharmacodynamics. The practical advantage, on the
other hand, lies primarily in the field of clinical pharmacology and in the
testing of drugs, since today the elucidation of the pharmacokinetic reactions
of a new substance is considered an essential prerequisite for its clinical trial
and therapeutic use. The book gives all the basic information and principles
in regard to this question. Moreover, in view of the fact that the practical
examples have been presented in such an easily intelligible form, it can be
used without any specialized introductory reading by theoreticians and clini-
cians little versed in mathematics for the solution and management of practical
problems. O. Kraupp, Bochum
News
European Meeting on Medicinal Chemistry 6es Rencontres de Chimie thérapeutique
Brussels, 14-17 September 1970

The above-mentioned meeting, jointly organized by the Société chimique de Belgique and the Société française de Chimie thérapeutique, and with the kind co-operation of Deutsche Pharmazeutische Gesellschaft Koninklijke Nederlandse Chemische Vereniging Società Italiana di Science Farmaceutiche Society for Drug Research Vlaamse Chemische Vereniging will take place in the Université libre de Bruxelles on 14-17 September 1970.

The inaugural session will comprise an address ‘Perspectives nouvelles de la thérapeutique’ (‘New Prospects in the Field of Therapeutics’) by Prof. Christian de Duve, Université catholique de Louvain and the Rockefeller University.

Topics of the meeting: (1) Research on synthetic antibacterial and antiviral agents. (2) Active drugs in peripheral and cerebral circulation. (3) Seven and higher membered cyclic systems. (4) Chemical and physicochemical methods applied to problems of medicinal chemistry.

Persons who desire to be provisionally registered or to submit papers should apply to the General Secretariat, Square Marie-Louise, 49, Brussels, Belgium.

Suitable languages: French and English.