A Pioneering Work on the Basic Chemistry and Clinical Applications of Ion Exchange and Adsorption Agents in Medicine

The Concept of Intestinal Bionomics

By GUSTAV J. MARTIN, Sc.D.
Research Director, The National Drug Company

For more than ten years Dr. Martin has been engaged in the investigation of ion exchange resins for medical use. This book is the result.

Dr. Martin’s preliminary efforts resulted in the application of the anion exchanges in the treatment of peptic ulcer and the use of cation exchangers for sodium reduction.

A greater, more important application arose from the clinical use of those two resin types — the conditioning of the gastrointestinal tract. All chronic degenerative disease, says Dr. Martin, has as an important component in its etiology the absorption from the intestine of small quantities of toxic chemicals.

That the absorption of these toxic agents can be prevented by proper selection of ion exchange and adsorption materials is the theme of a book that breaks new ground in an important field. With 24 Figures, 49 Tables, Index, 333 pages. $7.50
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University of New Mexico, Albuquerque, New Mexico, April 26-29
Southwestern Field Trip, Albuquerque-El Paso and return, April 30-May 1


Discussion Group Sessions, April 29 (See SCIENCE of February 11, 1955, or THE SCIENTIFIC MONTHLY of March, 1955, or write to the American Association for the Advancement of Science, 1515 Massachusetts Avenue, N.W., Washington 5, D. C., U.S.A., for details. Cable Address: Advancesci, Washington, D. C.)

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<th>Single with bath</th>
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<td>$10.00</td>
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This work is designed to give a balanced presentation of the subject of chemisorption, in particular of discoveries made over the last fifteen years. The main part of the book, concerned with chemisorption itself, treats velocities of adsorption and desorption, equilibrium at surfaces, heats and mechanisms of adsorption, and the mobility of adsorbed layers. The two final chapters illustrate the relationship of chemisorption to heterogeneous catalysis and discuss the causes of catalytic specificity together with the mechanisms of some simple catalytic reactions. These include olefine hydrogenation and the cracking of hydrocarbons.

Acetylenic Compounds in Organic Synthesis
By R. A. RAPHAEL, Queen's University, Belfast
1955, 219 pp., $6.20

The rapid development of the chemistry of acetylenic compounds in recent years has led to an equally rapid increase in the number of their synthetic applications. The purpose of this book is to serve as a guide to the many techniques available, thus alleviating the hitherto necessary chore of literature search and pilot experiments. The techniques for synthesis are described from a practical viewpoint, with critical accounts of the best procedures and indications of their scope and limitations. For easy reference, the book is divided into sections corresponding to the main organic chemical types, i.e. aliphatic, conjugated, carbocyclic, and heterocyclic systems.

The Strengths of Chemical Bonds
By T. L. COTTRELL, Imperial Chemical Industries Ltd.
1954, 310 pp., $5.50

This new book presents a full description of the experimental approach to the study of bond strengths. Experimental methods for determining bond dissociation energies in diatomic and polyatomic molecules are discussed in detail, together with the methods of determining the heats of formation of molecules. Attention is chiefly given to the reliability and accuracy of the various methods and results. The numerical values of heats of atomization are listed and critically examined, and a table of internuclear distances and force constants is included for those bonds for which energetic information is available.

Electrolyte Solutions
By R. A. ROBINSON, University of Malaya and R. H. STOKES, University of Western Australia
1955, 524 pp., $9.50

A detailed account of the present state of knowledge of the most fundamental properties of electrolytes, conductance, chemical potential and diffusion, from the standpoint of the practical electrochemist. Modern experimental methods are discussed at some length, and extensive results are given, together with numerous tables useful in computations on electrolyte solutions.

The Structural Chemistry of Proteins
By H. D. SPRINGALL, University College of North Staffordshire
Foreword by LINUS PAULING, California Institute of Technology
1954, 376 pp., $6.80

This account of the structural chemistry of proteins is an up-to-date and detailed presentation of the work that so far has been done on their composition, chemical and physico-chemical properties, and molecular structure.

Mathematics for the Chemist: Mathematical Analysis for Chemists, Physicists, and Chemical Engineers
By G. J. KYNCH, University College of North Wales
1955, 356 pp., $4.80

“Mathematics for the Chemist” will resolve a difficulty long familiar to scientists: that of deciding when a particular mathematical method can be applied to a problem, and when it cannot. Its purpose is to provide a text on the application of mathematics to the physical sciences, using the language of the chemist wherever possible.

Numerical Methods
By A. D. BOOTH, London University
1955, 204 pp., $6.00

The volume has been designed to give an understanding of the basic principles on which numerical analysis rests, and therefore approaches the subject from this aspect rather than giving instruction in the details of actual calculation. It is particularly directed to those who wish to acquire the art of programming for automatic calculators, for which a thorough knowledge of the underlying mathematical principles is essential, but where the actual details of calculation are carried out automatically.

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Sex in Microorganisms

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The genetic, physiological, and morphological evidence for "sex" in the principal groups of microorganisms—viruses, bacteria, fungi, unicellular algae, and protozoa—is presented by a group of experts in the field.


R. Patrick of the Academy of Natural Sciences, Philadelphia, describes syngamy in diatoms; R. A. Lewis of the Maritime Regional Laboratory, Halifax, the sexuality of other unicellular algae, especially the flagellates.

In two chapters D. H. Wenrich covers sexual phenomena in some of the protozoa and discusses the origin and evolution of sex, based primarily on the protozoa, but including material about all of the microorganisms. D. L. Nanney of Michigan summarizes mating-type phenomena in Paramecium aurelia and some of the recent mating-type work from Sonneborn's laboratory. C. B. Metz of Florida State compares mating-type substances in Paramecium and other ciliates with those found in Metazoa. Extensive chapter bibliographies are included.

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