Progress in Drug Research. Volume 14. Edited by ERNST JUCKER. Birkhäuser Verlag, Basel. 586 pp. 24.5 × 17.2 cm.

In the preface to this 14th volume of his series, the editor writes "Drug research is currently in a state of transformation: reconsideration in the light of the past and reorientation with a view of the future." While this is, and should be, true of all research, is is painfully true for medicinal science. Four chapters in this volume reflect this state of flux. The interactions of drugs with each other and with biomacromolecules have been treated as the most urgent questions whose answers may well lead to a complete overhaul of drug science. The release of drugs from pharmaceutical formulations has been the cause of competitive claims by various manufacturers, and has been under fire by governmental drug control agencies. The reduction of drug action by drug combination is surveyed skillfully by E. J. Ariens. It includes good sections on metabolic activation and inactivation of drugs, on microsomal liver enzyme induction, on drug transport, and particularly a concise and accurate discussion of mechanisms of antagonism, with examples and ramifications in many therapeutic areas. S. Ehrenpreis writes well on the interactions of drugs with enzymes and receptors, and with macromolecular silent receptors. The types of drugs include antiinflammatory agents, anticoagulants, antimalarials, adrenergic and cholinergic amines and their antagonists, anesthetics, cardioactive and chemotherapeutic drugs, and psychopharmacological agents. The interactions of anabolic steroids and glucocorticoids in their many ramifications (combination effects, endocrine balance, adrenal atrophy, their effects on bone, wound healing, gastric ulcers, etc.) are treated in a separate chapter by O. Linet. K. Münzel, in a theoretically well-done and practically comprehensive article, expands on an earlier survey (Volume 10, 1966) of formulations and their influence on intra- and intermolecular forces which, in turn, so greatly affect the availability of drugs for their intended purposes. The role of kinins in various types of shock forms the basis of an interpretation of shock by G. B. West and M. S. Starr. The volume is rounded out by two chapters on the biological activities of specific organic structures, i.e., quinazolones (A. H. Amin, D. R. Mehta, and S. S. Samarth), and acetylenic compounds (K. E. Schulte and G. Rücker); although not comprehensive by a quick literature search by this reviewer, they will prove useful to medicinal chemists in these fields. The book is beautifully appointed and remarkably free from errors.

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Nucleoside Antibiotics. By R. J. SUHADOLNIK. Wiley-Interscience, New York, N. Y. 1970. x + 442. $22.50.

Although about 10 good reviews on the subject have appeared since 1964, a comprehensive treatise of nucleoside antibiotics with references until 1969 is a welcome addition to the literature of this rapidly growing field. Each of the compounds is reviewed under the following headings: discovery and isolation, structural elucidation (with heavy emphasis on spectral methods), chemical synthesis (brief), synthesis of analogs (very brief), inhibition of growth, biosynthesis, and biochemical manifestations. Five chapters deal with those nucleosides in which the ribose ring has been modified, the other chapters with compounds exhibiting structural alterations in the aglycone moiety. Seven of the nucleosides have no antibiotic properties but have been included because they occur in nature and are closely related to the other, active substances.

Many of the inhibitory nucleosides have been used extensively as tools in elucidating biochemical mechanisms of action, especially the exact point at which they interfere with protein biosynthesis. Thus this book should be of value to the molecular biologist as well as to organic and biochemists, microbiologists, and chemotherapists.

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