

BOOK REVIEW

The Basis of Chemotherapy, THOMAS S. AND ELIZABETH WORK. Oliver and Boyd Ltd., Edinburgh 1948, 435 pp. 26/- net.

This book gives magnificent demonstration of the change which has taken place in the spirit and content of chemotherapeutic research during the past 12 years. The emphasis must be on research and understanding, as is implied in the book's title. Practical achievements are reported, but, because the book so largely deals with the background of chemotherapeutic practice, the partial successes of the past are not superseded but are incorporated and reinterpreted; with ethyldihydrocuprein, still remembered as the first bacterial chemotherapeutic agent of 1910, came the first description of bacterial drug resistance. Therefore although the book begins with a valuable historical chapter, the results of 20-50 years ago are also assimilated and described with current findings and appear among the 800 odd detailed references.

The guiding principles of the book are those of the past 10 years research, as is indicated by the chapter headings: Cell Metabolism; Essential Metabolites; Enzyme Inhibition; Drug Antagonism; Drug Resistance and the Relation of Structure and Activity. One is half afraid that they bespeak a new orthodoxy. The text of the chapters is actually varied much beyond the subjects implied in the headings and no trend in thought or interpretation has been ignored. Some aspects of the subject which are most emphatically basic do however receive a rather scattered treatment, *e.g.*, an expounding of the chemotherapeutic system as one comprising host, parasite and drug; the interaction of host and parasite or of host and drug. It would be advantageous to collect these in the index, which is a good one, or in an early chapter. But in a subject with the complexities of chemotherapy, many systems can be devised for organizing the available data, and the various systems have complementary advantages. The virtue of that chosen by the authors is its suitability for expounding one of the main themes in the research work of the past 10 years. It is necessarily a new way of interpreting the subject and one worthy of trial on the scale of the present book.

Because the contact of chemotherapy with the biochemistry of its times is surprisingly new, cell metabolism receives a detailed explanation, and a good one. Much of this knowledge is common to all biochemistry and the authors' comment on the need for greater knowledge of the comparative biochemistry of different parasites and of host and parasite is a timely one. Many classical experiments as those of WARBURG on the Atmungsferment are worth retelling, and the account reaches to contemporary work. We can sympathize with the authors' closing quotation from HUME on *ad hoc* hypotheses. The book comes at a time when there is less excuse than ever in chemotherapy for such hypotheses and for explanations which are not open to experimental attack. The authors' attempt to assess the dependence of a cell on particular metabolic pathways by quantitative data on enzyme inhibition, concentration, and turnover number are especially noteworthy. Also, as the authors emphasize, much which was relegated to permeability differences has been found to be open to experimental observation.

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