

authors and serves as a useful handbook and laboratory guide. The following major subjects are discussed: breeding of the rat, general methods for handling, gross anatomy, experimental methods and rat embryos, dietary requirements of the rat, the teeth, the digestive system, metabolism, the central nervous system, techniques for the investigation of psychological phenomena, the circulatory system, the use of the rat in the bioassay of hormones, dosage of drugs for rats, hematology of the rat, radiologic considerations, surgery of the rat, histologic methods adapted to rat tissues, the osseous system, the eye of the albino rat, protozoan parasites of the rat, metazoan parasites of the rat, and spontaneous diseases of the rat. Here is to be found the essential information for every worker in the biological sciences with many references to more extended information in each of the fields represented.

Space will permit a review of but a few of the subjects covered by this excellent book. The chapters on the breeding of the rat, general methods of handling and the spontaneous diseases of rats will be found very helpful in a general way to any animal laboratory. These chapters contain such information as the time of gestation, preparation of the nest, size of litters, methods of caging, age determination, identification of individual animals, convenient ways of keeping vital records, ways of keeping the animals free from disease, methods of producing anesthesia, and the like. Even workers of long experience will find helpful tips in these sections.

Researchers in the field of nutrition will be grateful for the chapter on dietary requirements. Methods are given for the production of mineral deficiencies, vitamin deficiencies and amino acid deficiencies. Especially useful is a summary of known requirements for the rat of each of the vitamins and minerals (p. 97). The chapter on metabolism is also helpful to anyone wishing to study the effects of variants upon metabolism.

To pharmacy researchers, the most useful chapter is that on the "Dosage of Drugs for Rats," by Harald G. O. Holck. The factors that modify dosage of drugs are discussed and in this connection it is particularly gratifying to the reviewer to note the emphasis placed upon diet. In making adequate studies of drug action and particularly assay,

the control of the diet is believed to be very important. Since the action of certain metals such as potassium and calcium is so profound and the need for some of the vitamins for proper nerve function is so well established, it is amazing how little attention is often paid to the state of nutrition of experimental animals. The most useful section of this chapter is the extensive tabulation of dosage of drugs covering 35 pages and giving references to the original literature. Information of this type is used time and time again by workers in the field, but is often found only with considerable difficulty. In usefulness this chapter alone is well worth the price of the book.

The compilation of a handbook of this sort, involving so many variable viewpoints, is extremely difficult. The relative lack of overlapping of material and the unity of style is a tribute to fine editorial craftsmanship—M. W. GREEN.

*Preparacion de Productos Quimicos y Quimico-Farmaceuticos* by C. A. ROJAHN, Director of the School of Pharmacy of the University of Halle. Trans. from the original German and amplified by FRANCISCO GIRAL, Head of the Department of Organic Synthesis in the Hormona Laboratories, Mexico. Editorial Atlante, S. A., Mexico, D. F., 1942. xxxix + 1002 pp., 17 x 23 cm.

These two volumes are intended to be used as references for the preparation of medicinal chemicals and their intermediates. Many other pertinent data, such as yields, physical properties, tests for identity and purity (largely taken from the German Pharmacopœia) and a bibliography, are also provided.

The volumes are divided into two parts. Part I is a study of inorganic substances, the elements being classified similarly to the Periodic Table. Part II, consisting of approximately 700 pages, deals with the organic compounds, classified in the traditional manner. Here may be found such modern therapeutic agents as thiamine, nicotinic acid, pentamethylenetetrazol, and others. One of the unique features of this section is a schematic diagram of the synthesis of the organic arsenicals.

To anyone for whom the language (Spanish) is no handicap, these volumes will be a valuable addition to the reference library.—M. W. GREEN.

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