

BOOK REVIEWS

PHARMACOGNOSTISCHE COMMENTAAR OP DE BELGISCHE PHARMACOPEE IV EN HAAR EERSTE BIJVOEGSEL by Prof. Apoth. R. Dequeker. Part I, pp. XIII + 746, Part II, Atlas pp. 109. 3rd Edition. Laboratorium Pharmacognosee Artsenijkunde. Ed. van Evenstraat, Leuven, 1949.

This commentary on the Belgian Pharmacopœia IV and its First Supplement includes, in the text, 160 items. Sixteen crude drugs in the B.P. 1948 are absent from this book: these are agar, anethum, belladonna root, capsicum, cardamom, carum, catechu, coccus, colchici cormus, colocynth, creta, ipomœia, lemon peel, hypoglossi oleum, Indian podophyllum, prunus serotina. There are included, however, several commodities which are not "official" in Britain, but are commonly sold in the pharmacy.

Each drug in the text is considered under the following headings:—definition, synonyms, biological and geographical sources, concise description of the plant, cultivation, collection and preparation, macroscopical characters, microscopical characters, constituents, adulterants and assay, poisonous dose, pharmacodynamic properties, pharmaceutical preparations, storage. For each section the relevant quotation from the Pharmacopœia is printed in italics and is followed by notes and explanation. A large number of references to current literature are given under authors' names with detailed references as footnotes; in this way a large amount of useful documentation is provided, including references up to 1948. The chemical nature, and where possible, molecular constitution of the constituents are discussed and many structural formulæ are given.

In describing the drugs measurements are given for both macroscopical and microscopical details. Under microscopy, however, though reference is made to the use of palisade ratio, no numerical values are given and there is no reference to vein-islet number or to the very useful stomatal index. Under lycopodium, the number of spores per mg. is not given and there is no reference to its use for quantitative assays. The value of the length of trichome rib per mg. of nux vomica is not referred to and area measurements per mg. for certain leaves and sclerenchymatous layers are also omitted. The use of crude fibre values as criteria of purity seems to have been overlooked, whereas they are valuable for the examination of drugs such as ginger, clove and linseed.

The Atlas of figures, illustrating the text, consists of a well-drawn and carefully arranged selection of details from a number of well-known illustrated treatises and publications, including amongst others the Anatomischer Atlas of Tschirch and Osterle, the Codex Français 6, the Lehrbuch de Botanik of Strasburger, and the Pharmakognistischer Atlas of Flück, Schlumpf and Siegfried. In general the habit sketches of plants and the drawings of macroscopical details are good and accurate. The figure of *Coccus cacti* on pg. 24 is entirely erroneous and misleading and should be replaced by a new drawing made from the insect itself. The microscopical drawings, although faithfully reproduced from the originals, are often unsatisfactory in details although they provide a general guide to the particulars which must be considered. The illustrations of many drugs, unofficial in Britain, will prove particularly useful to both pharmacists and analysts, especially such commodities as *althæa* root, cola seeds, lime flowers, *santonica*, black mustard, and bearberry leaves.

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The book is in semi-stiff paper covers, it is printed on good paper and is well produced. There is a satisfactory index and reference to the monographs is greatly facilitated by printing, in italics at the outside top corner of each page, the names of the drug described on that page. T. E. WALLIS.

STRUCTURE AND PHARMACOLOGICAL ACTIVITY OF SUBSTANCES ACTING ON THE AUTONOMIC NERVOUS SYSTEM, by D. Bovet and F. Bovet-Nitti. Pp. 849. S. Karger, Basle and New York, 1949. 85 Swiss francs.

Dr. D. Bovet and F. Bovet-Nitti have produced a most interesting and informative book on the structure and pharmacological activities of drugs acting on the autonomic nervous system. The substances considered include adrenaline, acetylcholine and histamine, together with their antagonists. It is particularly useful to have a book of this sort written by those who have been responsible for so much of the original work described. The book includes a historical review of the development of each of these lines of work and discusses the various views as to the modes of action of the drugs concerned. The method of producing antisubstances to the various drugs by introducing oxygen or nitrogen atoms into the molecules between the side-chain and the ring structure is particularly well stressed, and each section dealing with these antagonists is treated in great detail. Under adrenaline, for example, the aromatic and heterocyclic synthetic antagonists and the alkaloidal sympatholytics occupy more than 100 pages. It is a book which will be both useful to the student and stimulating to the investigator. Since the chemical relationships of the substances are discussed in detail, it will be of great interest to all pharmacologists and chemists working in this field. The book is a comprehensive treatise on this section of pharmacology and contains a very complete list of references. G. A. H. BUTTLE.

ABSTRACTS (continued from page 61)

units/ml. of streptomycin. The organism was initially inhibited by 1 mg./ml. of *p*-aminosalicylic acid. Exposure to the compound for 120 days produced no increase in tolerance. When the organism was exposed to increasing amounts of streptomycin in the presence of 0.5 mg. of *p*-aminosalicylic acid during 120 days it was inhibited by as little as 1 unit/ml. of the antibiotic. It is suggested that the simultaneous use of *p*-aminosalicylic and streptomycin may provide an effective means of preventing the development of streptomycin resistance *in vivo*. H. T. B.

Penicillin Uptake by Bacterial Cells. E. A. M a a s s and M. J. J o h n s o n. (*J. Bact.*, 1949, **57**, 415.) Two types of absorption occur when cells of *Staphylococcus aureus* are equilibrated with penicillin solution. There is a simple diffusion of penicillin into the intracellular fluid, continuing until the penicillin concentration inside the cell is equal to that outside. There is also a specific uptake of the antibiotic by the cell, and this absorbed penicillin is not removed by extensive washing. By using a bacterial paste, obtained by centrifuging a culture, so as to obtain a high concentration of bacterial cells, and radioactive penicillin G, it was shown that each cell specifically absorbs 750 molecules of penicillin. No evidence was obtained to show whether this uptake of penicillin is responsible for its bactericidal activity. H. T. B.