

## BOOK REVIEWS

*KOMMENTAR ZUR PHARMACOPOEA HELVETICA*, V. Supplement I and II, pp. xi + 316 (including Index). Schweizerischer Apothekerverein, Zurich. 1956. Sw.Fr.32.00.

The volume is a complete new edition of earlier volumes published in 1947 and 1949 as commentaries on the Swiss Pharmacopœia V and its supplement. Publication of the Supplement II to the Swiss Pharmacopœia in 1955 brings the total number of substances official for the first time in the two supplements to about 160, and included many alterations and extensions of existing monographs. The present volume, which in some ways might be compared with the *Extra Pharmacopœia*, provides a commentary on these new and revised monographs, and has been compiled by a group of experts, many of whom were associated with preparation of the Swiss Pharmacopœia Supplements themselves. The material of the book is divided into two parts, in the first new monographs, and in the second alterations and extensions. It is arranged alphabetically in the first part under the Latin titles of the Official Monographs, the majority of which are chemical. The layout of each section follows a standard pattern based on that of the official monographs to which they refer. Methods of preparation are described in some detail, followed by a description, with explanation, where appropriate, of properties, tests for identity and assay. Incompatibilities are explained, special formulations described, and special points relating to stability are discussed. The graph showing the relationship between vitamin C stability and pH is a particularly useful example of the type of information given under this heading. Still further sections provide useful background information to the official monographs on vaccines and sera; bacteriophage are also discussed. Comparatively few sections relate to crude drugs and galenicals, but these like the paragraphs on compressed tablets, lozenges, ointments, etc., have been treated equally thoroughly. Part 2 is concerned more with general processes, such as sterilisation, the use of preservatives, spectrophotometry, the measurement of hæmolytic activity, pyrogen tests, etc. The book contains numerous references to original literature, much of recent origin.

J. B. STENLAKE.

*METHODEN DER ORGANISCHEN CHEMIE* (Houben-Weyl). Fourth edition. Edited by Eugen Müller. Volume III. Part I. Physikalische Forschungsmethoden. Pp. xxx + 954 (including 448 illustrations and Index). Georg Thieme Verlag, Stuttgart, 1955. Moleskin: DM.162.00.

The present volume is one of two in this series devoted specifically to physical methods. Part II, Volume III, has already been published. The sixteen chapters of the present volume (Part I) cover thermodynamic methods; kinetic studies; measurements of density, solubility, vapour pressure, molecular weight (also macromolecules), surface tension, and surface activity; calorimetric methods; determination of molecular shape with the aid of space models; statistical assessment of error in physical methods; crystal geometry and the polarising microscope, crystal flow and anisotropy; mass spectrometry; measurement and use of radioactive and non-radioactive isotopes in organic chemistry. This volume, in line with the general emphasis on practical methods found throughout this series, is freely and excellently illustrated with sketches and

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diagrams of specific pieces of apparatus. Throughout the book much useful information has been compressed by tabulating methods of experiment and physical constants, and also by the use of graphs. The book is excellently referenced, covering the literature up to 1955, though many of the more important methods are described in such detail as not to require further reference. The value of the information contained in this volume outweighs any disadvantage arising from a German text.

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(ABSTRACTS *continued from page 814.*)

was sodium 3:5-diacetamido-2:4:6-triiodobenzoate, sodium diatrizoate; acute intravenous LD<sub>50</sub> values for the species mentioned were between 11.3 and 14 g./kg. With acutely lethal doses of the drug, death occurred between a few minutes and three hours as a result of massive pulmonary hæmorrhage and consequent right heart failure. Local tissue toxicity was very low as judged by the absence of injury to the tunica intima of the marginal ear vein of the rabbit with repeated injections of a 50 per cent. solution of the salt. In doses of 0.5 to 2.0 g./kg., sodium diatrizoate had no consistent effects on blood pressure, heart rate or respiration in the cat or dog; ganglionic transmission through the cat superior cervical ganglion and the response to serial carotid occlusion in the dog were likewise unaffected. The drug was well tolerated by rats when given intravenously in five consecutive daily doses of 0.5 and 2.0 g./kg.; under the same conditions 4.0 g./kg. caused one death and renal tubular nephrosis in five out of nine rats. In monkeys, sodium diatrizoate was well tolerated at three successive doses of 0.5, 1.0 and 2.0 g./kg. No significant hæmatological or histological changes were observed with these doses. Clinical studies on the drug have demonstrated excellent visualisation of the urinary tract, with low incidence of minor side effects.

G. P.

**Tryptophan and 5-Hydroxytryptamine in Patients with Malignant Carcinoid, Studies on.** S. Udenfriend, H. Weissbach and A. Sjoerdsma. (*Science*, 1956, **123**, 669.) Patients suffering from metastatic malignant carcinoid, a relatively rare disease, show symptoms of intestinal hypermotility, bronchospasm, vasomotor disturbances and cardiac lesions. Blood levels of 5-hydroxytryptamine (5-HT) in these patients were from 0.6 to 3.0 µg./ml. compared with 0.1 to 0.3 µg./ml. in normal subjects. Urinary excretion of 5-hydroxyindoleacetic acid (5-HIAA), the major metabolite of 5-HT, was 70 to 800 mg./day in carcinoid patients compared with 2 to 9 mg./day in normal controls; this feature was diagnostic of the disease. After administration of 2-<sup>14</sup>CDL-tryptophan to three of the patients the excretion of labelled 5-HIAA demonstrated that tryptophan is the precursor of 5-HT and its metabolites. With a daily intake of 500 mg. of tryptophan, as much as 60 per cent. was converted to 5-hydroxyindoles, whereas in normal subjects only 1 per cent. was metabolised in this way. Nitrogen balance was just maintained in the carcinoid patient with daily amounts of tryptophan three to four times those required for balance in normal subjects. The altered tryptophan metabolism in the carcinoid patients results in less of the amino-acid being available for normal body requirements, with subsequent weight loss and hypoproteinæmia; pellagra has also been reported in some cases. The disease symptomatology is probably related both to this tryptophan deficiency and to 5-HT excess.

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