

## Book Reviews

*RECENT DEVELOPMENTS IN THE CHEMISTRY OF NATURAL CARBON COMPOUNDS, VOLUME 1.* By G. Fodor, K. Nador and I. V. Torgov. Pp. 319 (no Index). In English. Akademiai Kiado, Publishing House of the Hungarian Academy of Sciences, Budapest, 1965. 105s.

This book is divided into three sections. The first of these (160 pages) is a monograph by Professor G. Fodor about recent developments in the stereochemistry of the ephedrine, pyrrolizidine, granatoline and tropane alkaloids. He begins with some comments on methods which have been of particular value in elucidating the structures of these compounds. His subjects are those in which he is directly interested, much of the work having been done in his own department, consequently this account is authoritative and most useful. The chapter on tropane alkaloids is particularly extensive (78 pages) and must command the attention of all chemists interested in these compounds. Professor Fodor seems able to project his enthusiasm for his subject into his writing and this makes for stimulating reading.

The author of the second monograph (70 pages) is K. Nádor, who describes the results of the extensive biological tests which have been made on derivatives of tropine and pseudotropine. As in the first section, much of the work described was done in the author's own department. It is of particular value to English-speaking readers because many of the results have been published in Hungarian journals and have not been easily accessible until this account appeared. The section includes chapters on ability to block "muscarinic" receptors, receptors in ganglia and receptors at the neuromuscular junction, a short sub-section on local anaesthetic properties and a brief note of antihistamine activity and central effects. Although many questions remain unanswered, the review is of great importance, because work with rigid compounds like these tropeine derivatives is the most likely to lead to information about the relative positions of binding groups within the receptors.

In the last section (85 pages), I. V. Torgov reviews work on the total synthesis of natural steroids, equilenin, oestrone, androstane, derivatives of 11-desoxy-pregnane and of 11-hydroxypregnane, sapogenins, tomatidine, solasodine, vitamin D<sub>2</sub>, conessine, lanosterol and digitoxigenin. It is clearly written and easy to follow and the diagrams of the reaction sequences are exceptionally well-produced. This review, like the other two sections, is well provided with references and is a very suitable introduction to the synthesis of this type of compound.

In the preface, Professor Fodor states that ". . . the individual feature of this series is that it collects for the first time the relevant work of Hungarian chemists . . ." and that ". . . it is hoped that the English speaking reader will find here material of interest that has been heretofore accessible to him only with difficulty". Considerable trouble has apparently been taken to see that the book lives up to these hopes. It is a pity that there is no index, but the book is arranged in a systematic way and the list of contents is extensive. The price, 5 guineas, is low enough to ensure it being readily accessible.

R. B. BARLOW

*HORIZONS IN NEURO-PSYCHOPHARMACOLOGY.* Edited by William A. Himwich and J. P. Schadé. (Progress in Brain Research, Volume 16). Pp. xii + 347 (including index). Elsevier Publishing Company, Barking, Essex, 1965. 100s.

This volume is dedicated to Dr. Harold E. Himwich, Director of the Thudichum Psychiatric Research Laboratory at Galesburg, Illinois, U.S.A., on the

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occasion of his 70th birthday. It consists of contributions from past and present members of his laboratories and includes a list of Dr. Himwich's publications. As a timely acknowledgment of the signal achievements and industry of Dr. Himwich and his colleagues this volume is worthwhile; but it is difficult to recommend this book to the general reader because of the uneven nature of the contents, although several good discursive reviews are included. The specialised reader, however, may find something of interest in this volume.

Many of the contributions are concerned with the field of biological psychiatry. Smythies gives an account of the Osmond-Smythies' hypothesis of a disorder in methylation as the biochemical lesion in schizophrenia. He then describes his experiments to determine hallucinogenic properties in a wide variety of drugs on the basis of animal behaviour experiments. The role of amines in schizophrenia is developed by other contributors; Brune has studied the effect of psychotropic drugs on biogenic amine metabolism in schizophrenia, while Valcourt describes experiments showing that reserpine increases the urinary excretion of 5-hydroxyindoleacetic acid in mental patients.

Other contributors reflect a more basic neuropharmacological interest. Berlet gives a very interesting review of amino-acid metabolism in a wide range of amino acidopathies, including phenylketonuria, with and without cerebral dysfunction. A detailed account of his experiments on acetylcholine-acetylcholinesterase and 5-hydroxytryptamine-monoamine oxidase systems on whole animal behaviour is given by Aprison. Kobayashi describes the behavioural effects of various neurotropic drugs administered through the arachnoid space overlying the cortex. The effects on evoked potentials in the mid-brain reticular formation and the electroencephalogram of rabbits of a wide series of drugs active on the central nervous system are described by White, while Rinaldi discusses the effects of atropine applied topically and by infusion through a cortical artery on the electrical activity of the rabbit cortex.

D. W. STRAUGHAN

**PHARMACOGNOSY OF AYURVEDIC DRUGS.** (Kerala). By K. N. Aiyer and M. Kolammal. Pp. 4 + 129. Department of Pharmacognosy, University of Kerala, Trivandrum, India. Series 1, No. 7, 1963. Rs. 10.

Seventeen Indian plants yielding drugs used in Ayurvedic medicine are described in this number of the series dealing with indigenous drugs of Kerala. Each plant is considered under sub-headings, namely (1) notes in sanskrit text with transliterations and translations, (2) detailed description of the macroscopical structure and of the parts used medicinally, each illustrated by a good full-page drawing of the plant, (3) an account of the anatomy of the part or parts used medicinally, accompanied by careful drawings of their microscopical structure. One plant *Erythrina indica* is illustrated by a well-executed coloured drawing of the flowering plant, which forms a frontispiece to the book. Three of the plants are familiar in Britain; these are *Tinospora cordifolia* of which the dried stem is used and contains the alkaloid berberine; *Adhatoda vasica* the leaves of which contain the alkaloid vasicine, and *Terminalia chebula* which yields fruits that in the unripe and dried condition are known as *Chebule Myrobalans*; these were in 1900 included in the Indian and Colonial Addendum to the British Pharmacopoeia 1898 and the Myrobalans were described also in the B.P. 1914. Throughout the book the drawings are labelled with the same lettering and an explanatory list is given in the introduction, thus avoiding printing a long legend for each drawing, of which there are 31 in the book. The whole forms a valuable contribution to the study of Indian drugs used in ayurvedic medicine.

T. E. WALLIS