

Substances naturelles de synthèse

Préparations et méthodes de laboratoire. Vols. I and 2. Par J. Mathieu, P. Poirier, A. Petit et Dr. L. Velluz. Collection publiée sous la direction de Dr. Léon Velluz. Vol. 1: pp. vii+142; 1200 francs. Vol. 2: pp. vii+138; 1250 francs. (Paris: Masson et Cie., 1951.)

THESE small volumes are the first of a series which is mainly concerned with the laboratory preparation of organic compounds of biological importance. In addition to the preparative details taken from the literature, there is an introductory discussion in each case and a series of notes directing attention to alternative syntheses, and, frequently in an elementary way, to the general use of some of the reactions employed and even to theoretical aspects of the subject. The liberal use of graphic formulæ makes it very easy to follow the synthetical reactions, and there are many references to the literature. In choosing between alternative syntheses the authors have been guided by the practicability of the processes, taking into account the starting materials, the number of steps, yields, etc., and the reasons for the choice are frequently given. Vol. 1 describes the synthesis of ascorbic acid, adenine, adenine labelled isotopically, adenosine, chloromycesin, esculoside, *dl*-histidine, and *l*-tryptophan; Vol. 2 contains adenylic acid, *dl*-aspartic acid, deoxycorticosterone, *dl*-lysine, *dl*-methionine, progesterone, *l*-threonine and *l*-thyroxine.

As distinct from the preparations, each volume contains sections headed "Méthodes" and "Notes pratiques". Under "Méthodes" are reviewed cyclizations leading to coumarins and pyrimidines, the Oppenauer reaction, and the separation of carbonyl compounds. These articles and the practical notes on pure solvents, reactions of carbonyl compounds, and the isolation of ketones, scarcely find a natural place in these volumes.

These books should be of value to those who are not in a position to obtain supplies of the substances described, and who have not the specialized knowledge to choose between the variety of processes in the literature. W. BAKER

Die Sonnenkorona

1: Beobachtungen der Korona 1939-1949. Von Prof. M. Waldmeier. (Lehrbücher und Monographien aus dem Gebiete der exakten Wissenschaften, Astronomisch-Geophysikalische Reihe, Band 4.) Pp. 270. (Basel: Verlag Birkhäuser, 1951.) 28.60 Swiss francs.

THIS, the first of three volumes which are to deal with the solar corona, is primarily a summary of 1,400 observations made with a Lyot-type coronagraph at the Arosa Astrophysical Observatory, a mountain station of the Zürich Observatory, situated at 2,050 metres above sea-level. The results are given in polar diagrams, showing the brightness of the low corona in the light of the green emission line λ 5303 Å., at a height about 30,000 km. above the limb, or in the red line λ 6374 Å., at a height about 20,000 km. The diagrams are clear, concise and well reproduced, although it is unfortunate that superficially they bear a misleading resemblance to isophotes in the corona.

The observations extend over about eleven years, and cover the whole range of variation to be expected during the sunspot cycle. They furnish an excellent example of how very valuable astronomical results may still be obtained with comparatively simple

apparatus, provided the astronomer knows what needs doing, and has the necessary drive and persistence. There is a short introduction to the book, describing the Observatory, the instrument, and the technique of observation.

The two succeeding volumes, also by Prof. Waldmeier, are to be devoted respectively to a full discussion of these and other observations, and to a comprehensive monograph on the corona. Together they seem likely to take their place as a standard reference work, in a subject which has assumed great importance during recent years, in radio physics as well as astronomy.

Hugh Robert Mill

An Autobiography. Pp. xii+224+6 plates. (London, New York and Toronto: Longmans, Green and Co., Ltd., 1951.) 18s. net.

WHEN in 1945 Dr. Hugh Robert Mill wrote his autobiography, the University of Cincinnati reproduced one hundred copies for personal distribution under the title "Life Interests of a Geographer, 1861-1944". By chance one of these duplicated copies came into the hands of Prof. Dudley Stamp, who was "so enthralled by this simple moving story of a long life's work, and entranced by the thumb-nail sketches of great personalities" that he arranged for its publication.

Mill's father was a country doctor practising in Caithness, but his family connexions included John Stuart Mill and W. E. Gladstone. Words were in his blood, and no inconsiderable part of his genius lay in his powers of exposition. A chapter of his autobiography describing his adventures in authorship bears the title "The Use of Words"; but this was a general interest, enlivening all the "twisted strands" of a career embracing chemistry, oceanography, geography and meteorology, including the study of rainfall.

This autobiography throws light on the development of the scientific treatment of geography and portrays Mills's personal contacts with the leading geographers, polar explorers, meteorologists and water engineers, both in Great Britain and abroad.

The Sea and its Mysteries

By John S. Colman. Pp. 285+17 plates. (London: G. Bell and Sons, Ltd., 1950.) 12s. 6d. net.

MR. JOHN COLMAN, who is now director of the Marine Biological Station at Port Erin, Isle of Man, is well suited to write a book on the sea, for he has considerable experience not only of marine biological work from a shore station, but also of the methods of oceanographic research from a ship on long cruises. The first four chapters of his book, which cover the physical and chemical hydrography of the sea, give a very readable account of the more difficult aspects of oceanography and incorporate much recent work on the importance to the animals and plants of the minor trace elements. In the chapter on coral reefs he has given one of the best recent accounts of this controversial subject, and has illustrated his argument with simple line-drawings, largely based on the work of the Great Barrier Reef Expedition. The chapters on the animal plankton and life between tide-marks are necessarily short, but they are well designed to whet the appetite for further reading of the works mentioned in the bibliography at the end of the book. This book is a welcome and well-written addition to the literature on the science of the sea.