not only for the information it contains, but also because it is definitely stimulating in indicating the loopholes and the possibilities for new work.

A word of praise must be given also to the publishers for their enterprise, even if tempered with some expression of regret at the price which is charged. Expressed in our currency, the cost puts the ownership of the book outside the reach of all but the most wealthy library, whereas it ought to be widely available for reference purposes.

It is obviously out of the question to attempt any detailed analysis; rather must the book be viewed as a whole, as a record of the present state of knowledge of plant products discovered by the organic chemist. Very nearly all the substances have yielded to his artifices, many only during the last decade; in spite of their complexity, fats, sugars including starch and cellulose, the proteins, alkaloids, saponins, nucleic acids, the plant colours, all have their secrets laid bare—only a few details as to their configuration are withheld. The attack is now on the most complicated constituents of the cell, on the ferments, the hormones and the more complex proteins. Here and there may be found isolated compounds to be investigated among the glycosides, the arrow poisons or elsewhere; but the time has come to establish group relationships, to correlate structure with physiological activity, to seek the origins and the function of compounds of such complexity in plant life.

Had the achievement been a literary one, there would have been the excuse to rhapsodise over its greatness, to bestow laurel crowns; but in science it is otherwise—we are accustomed to pass quickly from the problem solved to the many more which await us, each new worker taking up the torch from the fallen, content to add his mite to the general store of advancing knowledge.

E. F. A.

Short Reviews

Weather: the Nature of Weather Changes from Day to Day. By the Hon. Ralph Abercromby. New edition, revised and largely rewritten, by A. H. R. Goldie. Pp. xii+274+8 plates. (London: Kegan Paul and Co., Ltd., 1934.) 10*s.* 6*d.* net.

THE original edition of this work by the Hon. Ralph Abercromby appeared in 1887 and attracted much attention, passing through seven editions without change. Abercromby set out very effectively the principles of synoptic meteorology, and his generalisations and ideas have become classical. The early hopes of forecasting weather from the travel of cyclones and maps of limited area were not, however, realised, and it is now accepted that 'the whole world is the meteorologist's laboratory'. In the new edition, Mr. Goldie has developed the physical principles and included present-day knowledge of the upper air and modern theories. A recent weather chart of the northern hemisphere shows the enormous advance which has been made in organising observations.

The book is fully illustrated and includes some fine cloud photographs, and these are discussed in relation to the synoptic charts. Bibliographies are given which cover matters that could not be treated completely in the text. Many interesting examples of weather are described in detail with the help of charts and diagrams. The style is clear and will appeal to the general reader as well as the student. Almost every aspect of the subject is discussed, including the Bergen theory of cyclones, the relation of wind to pressure distribution, line-squalls and thunderstorms, visibility and fog, tornadoes and the general circulation—all matters of great practical importance.

АТОМНОЕ ЯДРО (*The Atomic Nucleus*). Edited by M. P. Bronstein, W. M. Dukelski, D. D. Iwanenko and U. W. Khariton. (Problems of Modern Physics, No. 24.) Pp. 227. (Leningrad and Moscow: Izdatel'stvo, 1934.) 3 rub.

THIS book (in Russian) consists in the main part of the description of papers, which were contributed to the First All Russia Atomic Nucleus Congress held in Leningrad on September 24–30, 1933, together with some of the discussions that followed. Eleven papers are included.

The contents start with a paper by F. Joliot on neutrons, which is a summary of present-day knowledge of neutrons, description of the methods of production and conditions of their emission, and finally a discussion of their possible mass. Then follow two rather theoretical papers by F. Perrin and D. Iwanenko on the constitutive parts or units in atomic nuclei. After a paper by D. Skobeltzyn on the problems of cosmic rays, positron theory is discussed in two papers by P. A. M. Dirac and F. Joliot.

Methods used for obtaining high-speed electrons and ions are described by K. Sinelnikow, particularly the methods in use at the Ukraine Physico-Technical Institute in Kharkov, where an impulse generator of 1·5 millions volts produced electrons fairly readily with the speed of 1·3 million volts.

There are also papers by L. Gray, S. Frisch and F. Raselli.

The last paper, by A. Leipunski, deals with the breaking down of atoms and gives a summary of recent work done by Lord Rutherford and co-workers.