

It is clear that the author is firmly of the opinion that dairy science and dairying cannot be interrupted by the accident of the farm gate—their scope, in fact, covers everything that happens from (and including) the farm production of milk, through its various types of processing for consumption as liquid milk or its manufacture into dairy products, up to its consumption in one form or another. This is a view with which most of those concerned with dairy science or practice would agree, not least because so many of the problems of milk processing and manufacture are bound up with the efficiency or lack of efficiency of dairy farm management and milking technique.

The scientific disciplines and the technological skills—agricultural, physiological and veterinary, bacteriological and biochemical, engineering and physical—needed to-day to deal with the problems and practice of dairying on both sides of the farm gate cover tremendously wide fields, as is so clearly evident from even a cursory glance at this 1,100-page volume. Nor does the author omit substantial reference to the fact—which is perhaps likely to be forgotten in peace-time—that milk and milk products are still the most valuable, from the point of view of human nutrition, of all our common foodstuffs.

In compiling this work, the author, though himself responsible for large, well-informed and well-written sections of it, has received the contributions of a number of specialists in particular fields. To name two such contributions only, there is an excellent epitome of modern knowledge of milk secretion by A. T. Cowie, and a chapter on legal aspects by A. L. Barton and P. O'Neill which is a model of concise and accurate statement of milk legislation in Britain. But in these two contributions, as in so many others dealing with the changing aspects of dairying, periodical revision is essential, and it is to be hoped that the author will find time to shoulder this heavy task at, say, five-year intervals.

To be without ready access to this excellent compilation is a mistake which few in any consultative, scientific, technological or managerial position in the dairy industry, and which no student of dairy science or practice, can afford to make. H. D. KAY

## RECENT ADVANCES IN STEREO-CHEMISTRY

### Progress in Stereochemistry

Edited by Dr. W. Klyne. Vol. 1. (Progress Series.) Pp. x+378. (London: Butterworths Scientific Publications; New York: Academic Press, Inc., 1954.) 50s. net.

FIFTY or sixty years ago the study of stereochemistry was almost entirely limited to attempts to discover the orientation of various groups of valency bonds around different atoms by methods analogous to those that had been used for showing that the four valencies of the carbon atoms are directed to the corners of a tetrahedron. However, even at that time, the subject was expanding, as is shown, for example, by Werner's interest in the changes in configuration that occurred at a cobalt atom when certain substitutions of one group by another took place.

Since that time stereochemistry has become important in all branches of chemistry. This is well illustrated by the most interesting book that is under

review here, for contained in it are sections concerned with reaction kinetics, spectroscopic properties, the configuration of proteins, enzyme processes, as well as sections which derive more directly from the studies and ideas of Van t'Hoff and Werner.

The book is one in which a number of authors have contributed chapters each dealing with that part in which he is specially expert. As a consequence, the book is a collection of quite separate articles. The first of these, by A. D. Walsh, is concerned with the shapes of simple molecules and contains, besides a valuable discussion, an extremely useful and complete tabulation of data on bond angles. These are now known with increasing precision since microwave spectroscopy has been added to the methods used in their determination. The second chapter, by W. Klyne, who has also edited the book, deals with the conformation of six-membered ring systems and provides a most readable and interesting account of this subject. The long list of references at the end of this chapter shows the great interest that exists in it at the present time. The effect of stereochemical factors in chemical reactions is the subject of the next chapter, which is by P. B. D. de la Mare, a member of the group at University College, London, which has contributed so much to this part of the subject. R. S. Nyholm also deals with the stereochemistry of substitution reactions at complex ions in his chapter on complex compounds. Some relationships between stereochemistry and spectroscopy are examined in Chapter 4. Most of this chapter deals with absorption in the visible and ultra-violet, but there is a considerable section on vibrational infrared spectra. There are three chapters concerned to a large extent with matters of biochemical interest. One deals with the configurations of large molecules and, in particular, of proteins, and another with the fascinating subject of the stereo-specificity of enzymes. There is also a chapter on the stereochemistry of the hydrogen bond.

The articles included in this book reach in general a very high standard. They will be interesting and useful to the specialist and also to the more general reader. The tables and graphs are well done and the lists of references at the end of each section are extensive and up to date. They add greatly to the value of this publication, which should be most enjoyable and stimulating to chemists at all stages of training and achievement. J. W. LINNETT

## NEUROCHEMISTRY

### Neurochemistry

The Chemical Dynamics of Brain and Nerve. Edited by K. A. C. Elliott, Irvine H. Page and J. H. Quastel. Pp. xii+900. (Springfield, Ill.: Charles C. Thomas; Oxford: Blackwell Scientific Publications, 1955.) 140s.

AUTHORITATIVE and comprehensive accounts of the chemistry of the nervous system are few and far between. Apart from the original classical work by Thudichum in 1884, the only recent extensive publications have been the books by Page which appeared in 1937 and by McIlwain which appeared in 1955. Consequently the volume under review, compiled by thirty-two authorities on the subject, is indeed welcome.

It begins with an introductory chapter appropriately devoted to Thudichum, the father of the