to publication. Rapid publication of review volumes is essential partly because it provides some form of guarantee for the satisfactory standard of the articles submitted. As a whole, the volume is disappointing in view of the overall lack of balance in the quality and relative content of the separate contributions. Some type of directed policy with regard to the selection of topics would be desirable in future volumes so that more attention could be given to the aspects of engineering geology which are of most relevance at this time, such as the engineering behaviour of rock, the engineering properties of specific sediment types and the hydro-geology of mineralized ground waters and arid regions.

J. L. Knill

NATURAL PRODUCTS CHEMISTRY

The Chemistry of Natural Products

Special and Introductory Lectures presented at the Second International Symposium on the Chemistry of Natural Products held in Prague, August 27–September 2, 1962. (International Union of Pure and Applied Chemistry, Section of Organic Chemistry, in conjunction with the Czechoslovak Academy of Science and the Czechoslovak Chemical Society.) Pp. v+493–717. (London: Butterworth and Co. (Publishers), Ltd., 1963.) 60*s*.

Chemistry of Natural Products is the second publication by the International Union of Pure and Applied Chemistry and contains eleven papers based on the special and introductory lectures given at the Union's symposium held in Prague in 1962. It maintains the high tradition established by the first publication in this series, which dealt with the special lectures presented at the international symposium on natural product chemistry held in Australia in 1960, and it may be noted that D. H. R. Barton, C. Djerassi, Sir Robert Robinson, Lord Todd and R. B. Woodward are contributors to both volumes.

The proceedings of the Prague meeting emphasize many of the more interesting present-day aspects of research in the chemistry of natural products. Ružička provides an excellent survey of the developments which have occurred in the understanding of the biogenesis of terpenoids, since he gave his Faraday Lecture in 1959 on the "History of the Isoprene Rule".

Prelog's lecture deals with the important work in which his school has played a leading part on the reactivity of medium-sized ring compounds. Although Prelog emphasizes that his lecture was not directly concerned with natural product chemistry, it is clear that the conformational analysis of medium-sized ring compounds is a subject in which rapid development may now be expected, particularly in certain areas of terpenoid chemistry.

R. B. Woodward has played a dominant part, during the past decade, in the development of a new attitude among organic chemists towards the problems presented by the synthesis of structurally complex natural products. In this volume Woodward describes yet another of his achievements, the total synthesis of a tetracycline. The paper by I. V. Torgov provides an interesting review of progress in the investigation of the total synthesis of steroids by various schools, and he makes instructive comparisons between the various synthetic methods which are now available.

Three chapters are concerned with various aspects of alkaloid chemistry. These include fascinating accounts by Marion on the very beautiful recent structural investigations on the more highly oxygenated diterpenoid alkaloids, and M.-M. Janot discusses recent investigations on the indole alkaloids related to akuammicine. Sir Robert Robinson makes a characteristically stimulating survey of the biogenesis of certain alkaloids, and again indicates certain areas where biosynthetic enquiry using labelled precursors is demanded.

The important part now played by mass spectrometry in the elucidation of the constitution of natural products is emphasized by the investigations reported by C. Djerassi, and it is clear that just as Djerassi made an examination of optical rotatory dispersion a feature of natural product investigation, so he will exercise a similar influence on the establishment of mass spectrometry as a popular method.

The pioneering investigations by Barton on the photochemical transformations of natural products may well have conclusions which have not yet been recognized, and his paper is a stimulating contribution to the literature of photochemistry. The review by Erdtman on some aspects of chemotaxonomy emphasizes the advantage which is to be gained by this complementary approach to problems which are associated with botanical classification.

This book is a joy to read, and the concluding chapter by Lord Todd, describing the work by the Cambridge group on the chemistry of aphid colouring matters provides a sequel which will certainly encourage all chemists to look forward to the next publication in this series. The publishers are to be congratulated on the quality of this important publication, and they are to be thanked for keeping the price at an acceptable level.

W. D. Ollis

A DIRECTORY OF ORGANIC COMPOUNDS

Melting Point Tables of Organic Compounds

By Dr. Walther Utermark and Dr. Walter Schicke. Second, revised and supplemented edition. Pp. xxxii+715. (New York and London: Interscience Publishers, a Division of John Wiley and Sons, 1963.) 170*s*.

THIS work is essentially a directory of some three thousand allegedly more common organic compounds arranged not alphabetically, but in sequence of increasing melting point. The information for individual substances, conveniently spread over two facing pages, is itemized in columns thus: *left-hand page*, (1) serial number; (2) m.p.; (3) chemical name; (4) molecular formula; (5) structural formula; (6) molecular weight (two places of decimals); (7) physical form and colour; *right-hand page* (after repeating serial number); (8) specific gravity; (9) b.p.; (10) Beilstein reference; (11) other physical constants and properties; (12) solubility; (13) selected reactions and derivatives. Dr. Utermark's first edition (1951), though twice reprinted, has not been available for some time; he has, with the collaboration of his earlier Zentralblatt contributor, Dr. Schicke, now produced this second, revised edition. A number of substances of relatively minor practical significance have been deleted and a few of more general interest inserted. For better characterization, further derivatives and the melting points of some eutectic mixtures[1] have been added. A brief introduction defines melting point, and emphasizes the precautions to be observed in its determination; specific reference is made to the Kofler hot-stage technique. A list defining 242 German radical names by line formulæ removes a possible source of ambiguity. Two appendixes, a formula index and an index of trivial names have literally been enlarged (the type size has been doubled), and a closer inspection shows that the content of the latter has been increased by 25 per cent (1,060 in the first edition, 1,331 here).

The basic language of the directory is German, but a number of concessions for other readers have been incorporated in the second edition. Thus, inside a cover pocket is slipped a cardboard mask bearing a translation into French of the column headings; the preface, introduction and (perhaps most usefully) the list of abbreviations have in turn been rendered into English, French and Russian,