

Elsevier's Encyclopædia of Organic Chemistry

Edited by F. Radt. Series 3: Carboisocyclic Condensed Compounds. Vol. 12B: Naphthalene, A, Compounds containing One Naphthalene Nucleus; Oxo-Compounds (except Quinones). Pp. xxxv+2189-2716+Ind. 62. (New York and Amsterdam: Elsevier Publishing Co., Inc.; London: Cleaver-Hume Press, Ltd., 1950.) £14 to subscribers to whole work.

THIS fourth part of Vol. 12B takes the naphthalene section of the "Encyclopædia" a stage further (see *Nature*, 167, 916; 1951). It is characterized by the customary excellence of production and freedom from error, and is concerned with aldehydes and ketones containing a naphthalene or hydronaphthalene nucleus. The various compounds are catalogued and their physical characteristics, methods of preparation and chemical reactions are discussed in the stereotyped way. Many of the compounds included in this part are in the nature of intermediates, without great intrinsic interest, and there is perhaps less to appeal to the reader generally interested in organic chemistry than in some of the preceding parts. There are, however, some interesting accounts of the sesquiterpene ketones, such as cremophilone and the cyperones, of the α - and β -tetralones, and of the stereoisomeric α - and β -decalones and their derivatives. The ketonic derivatives of the various hydronaphthalenes are rather scattered throughout the volume, and the tabulated summaries of these given at the beginning will facilitate rapid reference.

Apart from these ketohydronaphthalenes, most of the compounds treated in this part are, of course, compounds in which the carbonyl function is not an integral part of the naphthalene nucleus, but forms a separate attachment. There are, for example, the α - and β -naphthaldehydes and their derivatives, and the various groups of naphthyl ketones, including diketones in which the carbonyl groups are either present in a single side-chain or in two substituents. Included in this volume are the non-enolizable *gem*-substituted derivatives of the ketonic forms of the naphthols, especially those formed from 1-substituted-2-naphthols. The production of such ketones is a warning against too sweeping generalizations in theories of aromatic substitution. J. W. COOK

The Solidifications of Castings

A Review of the Literature. By R. W. Ruddle. (Institute of Metals Monograph and Report Series, No. 7.) Pp. 116. (London: Institute of Metals, 1950.) 10s. 6d.

IMPERFECTIONS present in castings or ingots persist, at any rate in large measure, despite any heat or mechanical treatment to which the metal may afterwards be subjected. It is therefore in the highest degree desirable that the factors which control the original solidification of the metal should be understood. Even to-day the production of castings is in large measure a matter of trial and error, combined with traditional experience.

In recent years, however, much attention has been paid to the scientific aspects of the problem, both on the empirical and fundamental sides, and the object of this monograph is to provide a critical review of the existing literature. Part 1 covers, in a general way, the work which has been done towards the practical application of scientific principles; the importance of directional solidification is discussed,

and the means available to attain this end are considered. In Part 2 a review is given of the more fundamental work concerned with the rate of abstraction of heat and of solidification, and, although at the moment mathematical analysis has probably yielded results of less importance when applied to non-ferrous castings than to steel, possibly due to the longer freezing ranges, it can, in conjunction with experimental methods of studying the problem, be of undoubted value. The researches discussed in Part 2 and the conclusions drawn therefrom are briefly summarized in Part 3, and an appendix provides details regarding the thermal properties of metals and of the materials from which the moulds are made.

This review, prepared originally for the British Non-Ferrous Metals Research Association, fully upholds the high standard now expected from the Monographs of the Institute of Metals, and the author is to be congratulated on a most useful piece of work excellently carried out. F. C. THOMPSON

Scientific and Learned Societies of Great Britain

A Handbook compiled from Official Sources. 57th edition. Pp. 228. (London: George Allen and Unwin, Ltd., 1951.) 30s. net.

AFTER a lapse of eleven years the compilation of "Scientific and Learned Societies of Great Britain" makes a welcome return to take its rightful place on the easily accessible shelf among other reference sources of British scholarship and learning. This handbook was previously known as the "Year-book of Scientific and Learned Societies", and under that name it has been published, almost continuously for more than fifty years, by Charles Griffin and Co., Ltd., the last issue appearing in 1939. After the end of the Second World War, the British Council acquired the rights of publication and is responsible for editing the present work. If praise be needed, it is sufficient to say that the book is every bit as good as its predecessors.

Part 1 is a new feature of this book and deals with the organization of scientific research in Great Britain. It gives the names and addresses of the main research organizations administered by the Department of Scientific and Industrial Research, Medical Research Council, Agricultural Research Council and the research associations. An interesting chart has been constructed outlining schematically the relationship of the various bodies in Great Britain engaged in scientific research.

Part 2 of the book, which forms about five-sixths of the two hundred-odd pages, is on the lines of the previous issues. It is divided into fifteen sections as follows: general science; mathematics and physics; chemistry; biology and microscopy; medicine; agriculture, horticulture, forestry and veterinary science; engineering and architecture; geography, geology and mineralogy; archaeology and history; anthropology and sociology; law; economics, statistics and political science; literature and fine arts; town and country planning and public amenities; other societies. The sections are divided into the regions of London, counties, Scotland, and (where applicable) Wales and Northern Ireland. Within these regional sub-divisions more than six hundred societies are listed alphabetically, giving the objects of the society, principal officers, membership subscription, meeting times and publications.

An index of subjects and names of societies completes the volume.