

**A Text-Book of Inorganic Chemistry**

Edited by Dr. J. Newton Friend. (Griffin's Scientific Text-Books.) Vol. 11: Organometallic Compounds. Part 3: Derivatives of Phosphorus, Antimony and Bismuth. By Archibald Edwin Goddard. Pp. xxviii + 318. (London: Charles Griffin and Co., Ltd., 1936.) 20s. net.

VOL. 11 of Dr. Friend's "Text-book of Inorganic Chemistry" deals with organometallic compounds, and the author is Dr. Goddard. It is divided into four parts, the first dealing with derivatives of elements of Groups I to IV of the Periodic Classification of the elements, and the second part with derivatives of arsenic. The present volume describes the organometallic derivatives of the other elements of Group V, namely, phosphorus, antimony and bismuth, leaving the elements of Groups VI–VIII for Part 4, now in preparation.

The book under review is planned on simple lines. Thus the first two chapters deal with fatty and aromatic derivatives of phosphorus, followed by a chapter on miscellaneous phosphorus compounds; fatty and aromatic compounds of antimony, and organometallic derivatives of bismuth are described in the remaining chapters of the book. Of these six chapters, the last two deal with groups of compounds which have formed the subject of original researches by the author.

The wide range of the subject is shown by the fact that reference is made to 2,600 derivatives of phosphorus, 700 of antimony, and 100 of bismuth. The most interesting chapter is perhaps the one which deals with the miscellaneous compounds of phosphorus, since, when this element is used in the form of chloride to bring about a simple replacement of OH by Cl or  $>O$  by  $Cl_2$ , it often gives rise instead to addition compounds, which can then be hydrolyzed to phosphinic acids. In this and similar ways the chemistry of phosphorus is extended, until it almost begins to bear comparison with that of nitrogen, with which it is also associated as an essential element of plant and animal life.

This important group of organic compounds has been dealt with by Dr. Goddard in the same efficient manner in which Dr. Sidgwick described the organic derivatives of nitrogen, in a volume which has unfortunately been out of print for some years. By doing so, he has not merely contributed an additional volume to a well-known text-book, but also has earned the gratitude of his colleagues by giving (perhaps for the first time) an adequate account of an unfamiliar section of organic chemistry.

**The Medicine-Man of the American Indian and his Cultural Background**

By Prof. William Thomas Corlett. Pp. ix + 369 + 14 plates. (Springfield, Ill., and Baltimore, Md.: Charles C. Thomas; London: Baillière, Tindall and Cox, 1935.) 22s. 6d.

AN unfortunate currency given to the popular term 'medicine man' to designate the shaman or priest-magician of the Amerindian tribes has given rise to much misunderstanding as to the true function of

this important figure in the Indian social organism. Although the healing art comes within his province, his theory and practice are based on psychology and theology rather than on pathology and pharmacology. In fact, the cure of disease is not his primary function, but an incidental of his relation to the spirit world, in which he acts as the tribal specialist and go-between. Apart from the sweat-house, and a not very extensive acquaintance with simples, magic, which does not differ in essentials from the practices of other parts of the world, is the beginning and end of his diagnosis and treatment. The medicine man, like the shaman of the north-eastern tribes of Asia, to whom indeed he is closely related in many of his functions and attributes, is the spiritual guide of the tribe and its leader in emergency, in many instances holding a position analogous to that of the war chief.

Notwithstanding the basic identity of the conception of the medicine man's function throughout the North American tribes, there is no little variation in detail, both in the position they hold and in their methods of action. Dr. Corlett's purpose has been to place before his readers a conspectus of the evidence and to demonstrate the variations to be found in passing from one to any other of the areas of cultural differentiation into which the Indians of North America have been classified by anthropologists.

**The Phenomena of Polymerisation and Condensation:** a General Discussion held by the Faraday Society, September 1935. Pp. vi + 412. (London and Edinburgh: Published for the Faraday Society by Gurney and Jackson, 1936.) 22s. 6d. net.

THIS publication records the first symposium in Great Britain specially convened to deal with fundamental aspects of polymers, among which synthetic resins and rubber are important industrial examples. The volume will naturally appeal to those workers on plastics who appreciate the importance of a knowledge of the principles underlying formation of their products.

The first section employs the weapons of X-ray spectrography, mechanical properties and kinetics of chain formation in elucidating structures, and is concerned with general concepts of polymeride formation. In general, the latter term is used in the modern sense to imply substances containing repeated units of definite structure not necessarily identical with the starting materials. An attempt by Dr. W. H. Carothers to connect, in a mathematical manner, polyfunctionality with polymer formation, and a study by Dr. K. Meyer of an inorganic polymer from phosphonitrilic chloride, deserve special mention.

The second section contains more specific cases, among which is a most suggestive contribution by Dr. H. Staudinger on the so-called 'insoluble polystyrene'. Although papers on phenol-aldehyde, amide-aldehyde and acetylene products are included, it is an unfortunate, but perhaps unavoidable necessity, that gives such prominence to polystyrene, at the expense of those more complex materials which have formed of late years the basis of industrial plastics development.

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