

## Short Reviews

*Organic Syntheses*. Collective Volume 1. Being a revised edition of Annual Volumes 1-9. Editorial Board : Henry Gilman, Editor-in-Chief ; Roger Adams, J. B. Conant, W. H. Carothers, C. S. Marvel, H. T. Clarke, C. R. Noller, F. C. Whitmore, C. F. H. Allen, Secretary to the Board. Pp. ix + 564. (New York : John Wiley and Sons, Inc. ; London : Chapman and Hall, Ltd., 1932.) 37s. 6d. net.

In this volume the editors have brought together for the convenience of their fellow-chemists the first nine volumes of "*Organic Syntheses*", containing authentic methods for the preparation of 260 substances. In doing this they have not contented themselves with merely rearranging the matter previously published, but have made a large number of relatively minor yet significant corrections, and have incorporated new and improved directions for the preparation of adipic acid, benzilic acid, cyclohexylcarbinol, dibenzoylmethane, *d*-glutamic acid, glycine, *dl*-methylethylacetic acid, pentaerythritol, and *n*-propylbenzene. At the same time the illustrations of apparatus have been re-drawn and the quantities of corrosive liquids and all solvents have been given both in cubic centimetres and in grams.

Not the least of the many difficulties associated with the preparation of a book of this type is the indexing ; but in the volume under review these difficulties have been overcome so successfully that the indexes are among its more commendable features. There is a "Type of Reaction Index", listing most of the preparations in accordance with some general type of reaction, such as acylation, halogenation, and oxidation ; a "Type of Compound Index", in which preparations are listed, where possible, according to the group introduced ; a formula index, an illustration index, and a general index, all of which have been made accessible by means of thumb index marks. The references to the literature, although not intended to include every published method for a given preparation, are plentiful and up to date.

It is a work which has been carefully and skilfully compiled, and can be unreservedly recommended to every chemist who is concerned with the preparation of organic compounds.

*A History of Aircraft*. By F. Alexander Magoun and Eric Hodgins. (Whittlesey House Publication.) Pp. xx + 495. (New York : McGraw-Hill Book Co., Inc. ; London : McGraw-Hill Publishing Co., Ltd., 1931.) 21s. net.

THIS is an extremely readable American publication, which does not, as several others have recently, give undue prominence to American achievement. Its record ranges from Archytas in 400 B.C. to Post and Gatty in 1931, and concludes with a chapter entitled "The Present", which happens to be principally an attempt to look into the future.

The authors claim to have exercised Lytton Strachey's requisite for the historian, "ignorance, which simplifies and clarifies, which selects and

omits . . .", and in the historical sections, using a restraint compatible with this humility, they have produced a remarkably concise and accurate précis of the world's aeronautical history, both mythological and actual. With contemporary history they are less happy, in that they have been led into reporting opinions, obviously biased by local outlooks, that they, as historians, should have avoided. For example, it will be news on the eastern side of the Atlantic that Sikorsky, in Russia in 1916, was the first person to produce a successful twin-motor aeroplane. Perhaps the literal accuracy of this statement turns upon one's interpretation of the word "successful". Also, that Hawker after his attempt upon the Atlantic flight in 1919 "vanished from the public stage", apparently because of his political indiscretions. The last chapter, with its attempts at forecasting the technical developments of the future, is a tactical error, and mars what otherwise is an interesting and logically written book. It is not in place in a history, neither do the authors appear to be technically able to deal with it.

The general lay-out is excellent, divisions being made according to classes of aircraft. This, combined with a chronology at the end of the book, makes reference particularly easy.

*Gems and Gem Materials*. By Prof. Edward Henry Kraus and Dr. Edward Fuller Holden. Second edition. Pp. ix + 260. (New York : McGraw-Hill Book Co., Inc. ; London : McGraw-Hill Publishing Co., Ltd., 1931.) 18s. net.

THE second edition of this useful work contains much new material, and is even more fully illustrated than the first. The work is divided, as before, into three parts—the first dealing briefly with the general properties of minerals, the second being concerned with descriptions of the individual gem species, and the third part containing tables of physical properties, etc., conveniently arranged for reference. A good index is provided.

The additional information concerning synthetic corundum and spinel embodied in the chapter on manufactured stones makes this one of the most valuable features of the book. A further improvement is to be found in the section on amber, which now provides an excellent account of the natural material and the properties by which it may be distinguished from its various imitations. The chapter on the cutting and polishing of gems has also been expanded. Less than two pages are allotted to the description of pearl, and the treatment is inadequate for so important a gem. The cultured pearl is briefly mentioned, but no account is given of the important modern methods used for distinguishing between natural and cultured pearls.

A mass of information is conveniently summarised in the concluding table (Table XI.). In this, wrong values are given for the specific gravity of benitoite, and the refractive indices of azurite and zircon—misprints which should be corrected in a future edition. The book is well produced and pleasant to handle, covering a wide field in a surprisingly small space.

B. W. A.