

Short Notices

Contribution à l'étude du peuplement zoologique et botanique des îles du Pacifique. Par L. Berland, J. Berlioz, E. H. Bryan, Miss E. Cheesman, L. Joleaud, L. Chopard, L. Germain, A. Guillaumin, K. Holdhaus, E. P. Mumford, A. M. Adamson, P. Rivet, L. Seurat, C. Skottsberg, E. Topsent, C. Vallaux. (Société de Biogéographie, 4.) Pp. iv+288. (Paris: Paul Lechevalier et fils, 1934.) 70 francs.

THE volume consists of sixteen papers by specialists who deal with particular parts of the subject. Two papers are geographical or geological, three are botanical, the remainder deal mainly with zoology, four of them with insects. One must recognise that it is extremely difficult to cover the ground adequately, for there are parts of Oceania and certain groups among the plants and animals about which we possess no information at all. But there are several important topics to which less than justice is done. There is, for example, almost nothing about the butterflies—a very important group to the student of island faunas, for these insects have been carefully collected, and a connected account of them could have been written. The birds also furnish an abundance of material, but the paper which deals with them is most indefinite, with facts about the birds of New Zealand and the Hawaiian Islands, but next to nothing on the avifauna of such well-known groups as Fiji and Samoa. Attention must be directed to one error in fact: it is stated that crocodiles occur in the Tuamotu islands, but actually their eastward limit is in the Santa Cruz, more than 3,000 miles to the west. The error is important, for one of the authors, having extended the range of crocodiles across Polynesia, is inclined to regard them as evidence that the area has a 'continental' fauna.

The critic must not forget, however, that, in the present state of knowledge, a work of this nature must inevitably be fragmentary. Certain parts of it are excellent; for example, the general description of the distribution of insects by Holdhaus and the more specialised articles on Orthoptera and on Arachnida by Chopard and Berland. The value of the book as an introduction to the subject would have been greater had more attention been given to completing the lists of references, and had special and general indexes been provided. P. A. B.

The Chemical Formulary: a Condensed Collection of Valuable, Timely, Practical Formulæ for making Thousands of Products in all Fields of Industry. Editor-in-Chief, H. Bennett. Vol. 1. Pp. x+595. (Brooklyn, N.Y.: The Chemical Formulary Co.; London: H. K. Lewis and Co., Ltd., 1934.) 6 dollars; 27s. net.

It is difficult to assess the value of a book of this kind until one has lived with it for years. Only then can one discover whether any process of trial or selection has led to the inclusion or exclusion of material, or whether—as appears to be the case in

this instance—there is no kind of entrance examination prior to admission to its pages. The result is that we have a book containing a very large number of formulæ, some attractive in their simplicity ("Liquid brilliantine: light mineral oil, perfume"), some intriguing in their application (such as artificial butter), and others—very many others—which involve the use of materials of undescribed (and hence presumably unknown) composition appearing under proprietary names. It is true, however, that the book is accompanied by a folder quoting many such names, and stating the suppliers of the preparations.

The great variety of recipes is classified in sections, but within the sections similar entries are not always in juxtaposition. Some of the recipes are stated to be in use commercially, whilst others have been taken from patent specifications and the literature, sources which, the reader is reminded, are often subject to various errors and omissions. In view of this fact and of the fact that the significance and application of a great many of the formulæ are intelligible only to those having specific technical knowledge, the ordinary person will not find that the book obviates any need for technical assistance.

A. A. E.

Electron Tubes in Industry. By Keith Henney. Pp. ix+490. (New York and London: McGraw-Hill Book Co., Inc., 1934.) 30s. net.

IN recent years great advances have been made in the use of electronic devices in industries outside the sphere of 'communications'. Mr. Henney's book should do much to further the advance. The author, who deals with the varied and sometimes little appreciated applications of electron tubes, is closely connected with many sides of the world of electronics, and this book should find a place on the shelf of every industrial engineer.

The first two chapters deal with electron tube theory and circuit application, and are sufficient to enable the engineer not familiar with these tubes to understand intelligently the various circuits employed. The remaining chapters are devoted to the vacuum thermionic valve, the gas-filled tube, and to light-sensitive devices; the various industrial and laboratory applications given being chosen to demonstrate the fundamental principles involved. The respective merits of the different tubes available are discussed both from theoretical and practical points of view, and the newer forms of tubes, such as the gas-filled relay, also have their place. An excellent bibliography completes each section.

Isolated examples from the book will indicate the wide field covered; the use of the vacuum tube amplifier and photo-electric cell for automatic temperature control, the use of the grid-controlled gas tube as an inverter and commutator; these will be of particular interest to engineers, while physicists will also find the book of value, for many applications of the tubes, particularly in precision measurements, will make an especial appeal to them. M. B.