

Economic Botany:

a Textbook of Useful Plants and Plant Products. By Albert F. Hill. (McGraw-Hill Publications in the Agricultural and Botanical Sciences.) Pp. x+592. (New York and London: McGraw-Hill Book Co., Inc., 1937.) 24s.

IN this work, the author, who is research assistant in economic botany at Harvard University, deals in an interesting manner with the more important useful plants and plant products of the world from the point of view of their history, cultivation, preparation and utilization. He shows how the three great necessities of life—food, clothing and shelter—as well as a large number of other useful products, are supplied in great measure by plants. Economic plants have been intimately bound up with human existence and have not only played an important part in the everyday life of mankind but have also had a profound influence on the course of history and civilization. Spice plants and the early spice trade afford evidence of this.

The volume consists essentially of four main sections: industrial plants and plant products; drug plants and drugs; food plants; and food adjuncts. Under the first of these are fibres, forest products and resources, tans and dyes, rubbers, gums and resins, essential oils, fatty oils and waxes, sugars, starches and cellulose products. Food plants include cereals, legumes, nuts, vegetables, fruits, spices and beverage plants. Insecticides such as pyrethrum, derris and cube (*Lonchocarpus*), which have assumed increasing importance in recent years, are also dealt with. In all, about eight hundred species are referred to, greater stress being laid on those plants that are of particular importance in the United States. There are numerous photographs in the text, and a full index and bibliography of more important works are given.

Introduction to Theoretical Seismology

By J. B. Macelwane and F. W. Schon. Part 1: Geodynamics. By J. B. Macelwane. Pp. x+366. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1936.) 30s. net.

AS the author remarks, "the forces producing earthquakes, the character and structure of the rocks affected, and the permanent displacements occurring in them are geological phenomena". They form the subject of seismology proper, and have been well described in Heck's recent work on "Earthquakes" (see NATURE, March 27, 1937, p. 529). The subsequent course of the waves so produced and the physical properties of the media through which they pass form a distinct branch of science to which the present volume is devoted. Depending to some extent on older works, such as Galitzin's "Vorlesungen über Seismometrie", this book is a summary of lectures delivered by the author. With its companion volume on "Seismometry", by F. W. Schon, it forms a text-book that will be of great value to students of geophysics.

In the first seven chapters, dealing with stresses and strains in elastic solids and the course of seismic

waves through the earth, the treatment is almost entirely mathematical. The last four chapters are, however, of interest to the general reader. They describe the paths of seismic rays, the interpretation of seismograms, and, especially, the methods by which the positions of epicentres and the depths of foci are determined. Many useful tables are given, such as those of the velocities of waves in the different layers of the crust, the positions of important seismological stations, and the notation used in denoting the various phases that appear on a seismogram.

C. D.

Tables Annuelles Internationales de Constantes et Données Numériques:

International Annual Tables of Constants and Numerical Data. 14: Combustion and Detonation of Gases. By Prof. P. Lafitte. Vols. 11-12 (Years 1931-1936), Section 70. Pp. iii+28. (Paris: Hermann et Cie.; New York: McGraw-Hill Book Co., Inc., 1937.) 16 francs.

THE summary of constants and data relating to the combustion and detonation of gases contained in vols. 7, 8 and 10 of the "Tables Annuelles Internationales de Constantes et Données Numériques" has been brought up to date by Prof. Lafitte in vol. 14, which covers the years 1931-36. This period is noteworthy for many important advances in the subject, inspired to a large extent by Semenoff's development of the chain-reaction theory. Chain mechanisms of hydrocarbon combustion have been suggested by Egerton, Norrish and Lewis, and new phenomena indicative of chain processes have been discovered in relation to ignition, the limits of inflammability and detonation; in addition, there has been a general revision and extension of existing data.

Prof. Lafitte has used excellent judgment in assembling and summarizing the results of this large body of new information. The numerical data are tabulated or are given in the form of curves reproduced on a legible scale, and each of the ten sections into which the volume is divided is accompanied by a comprehensive bibliography. D. M. N.

Contes Lazes

Par Georges Dumézil. (Université de Paris: Travaux et mémoires de l'Institut d'Ethnologie, Tome 27.) Pp. xiii+134. (Paris: Institut d'Ethnologie, 1937.) 56.25 francs.

THIS collection of folk-tales from the Caucasus has a double interest. To that of the folk-lore content is added that of the linguistic material. The volume contains a collection of tales related to the author in Constantinople by a young Georgian, a native of Lazistan, in his own language. The themes, for the most part, are familiar, but the tales are told with a delightful naiveté. Some, as the author points out, probably have a literary origin. From the scientific point of view the chief value of the collection lies in the linguistic analysis of the little-known language of Lazistan. The author provides an interline, as well as a running translation and a grammatical commentary.