

variation of the several components is shown by diagram for the year and for the several seasons, and average results are given for the years 1911-1921; special attention is also given to seismology. At Valencia the outstanding features for 1922 are said to be the cold weather of April, the prolonged low temperature, practically continuous from the middle of June to the beginning of November, and the small rainfall of October and November. At each of the four observatories (omitting Benson) the highest temperature during the year occurred at the end of May, and the minimum about the middle of January; at Kew the minimum reading was repeated on April 2, the highest and lowest readings occurring within 52 days of each other. The largest hourly measurement of rain at Aberdeen, Eskdalemuir, and Kew occurs in day hours between 8 A.M. and 5 P.M.; at Valencia it occurs between 1 and 2 A.M. The smallest hourly measurements occur between 7 A.M. and 1 P.M., except at Eskdalemuir, where it occurs from 8 to 9 P.M.

*The Hidden Zoo.* By Leslie G. Mainland. (The Broadcast Library.) Pp. 205+8 plates. (London: Hodder and Stoughton, Ltd., 1925.) 3s. 6d. net.

MR. MAINLAND is already well known as a delightful writer of popular articles on the Zoo, and this book is no less fascinating and amusing than his earlier volumes. In this collection of articles the author takes us behind the scenes at the Zoo and tells of the worries and anxieties of keepers and staff, and of the amusing and sometimes disastrous escapades of some of the animals. Its chief merit is, perhaps, the revelation which it makes of the large amount of careful and valuable research work which has to be done and is done by the staff in their endeavours to secure the best possible results for the animals in captivity, and the care which is constantly exercised in order to obtain the most natural conditions, consistent with confinement, for their charges. The nature of the correct food, the times at which it should be given, the rearing of the young, even the breeding of suitable foster mothers for the young of birds, are all matters demanding close observation and experiment. Mr. Mainland tells how these problems have been faced and solved. The book is charmingly written in humorous vein and is eminently suitable for reading to children. Yet the professional zoologist will find in it all sorts of odd facts of natural history of real scientific interest.

*Food and Health.* By Prof. R. H. A. Plimmer and Violet G. Plimmer. Pp. vi+64. (London: Longmans, Green and Co., 1925.) Paper cover, 2s. net. Cloth, 3s. 6d. net. Food Chart, 3d.

THE purpose of this little book is to explain to a lay public the principles on which a complete dietary is based, directing special attention to the errors which are commonly made in the selection of foods for human consumption. The central idea is comprised in a "square meal" expressed diagrammatically; the carbohydrates and fats or the "fuel foods," together with water and salts, constitute a central circle, whilst the four corners to form the square are filled up by proteins of good biological value and foods containing one of the three vitamins respectively. A coloured diagram shows at a glance both those foods which should be included in a complete dietary and also those

of similar nature which should be either excluded or, if included, should not form the staple representatives of their class. The authors consider that the average dietary contains too little vitamin B to balance the remaining constituents, especially the carbohydrates. The work is written in a pleasant style and can be read with profit not only by the public, to whom it is more immediately addressed, but also by those whose training should enable them to express an authoritative opinion on the subject.

*Uvod do Chemie Radioaktivnich Látek.* By Dr. A. S. Russell. Translated by Prof. Dr. A. Šimek. Pp. x+116. (Brno: A. Piša, 1925.) Kč 20.

ALTHOUGH it was Bohemia which supplied the classical pitchblende in which radium was first detected, the Czech scientific literature does not possess any volume on radio-activity. Dr. A. Šimek, who is professor of physical chemistry at the Masaryk University of Brno, has, therefore, translated Dr. A. S. Russell's "Introduction to the Chemistry of Radio-active Substances" into Czech for the benefit of his students.

In his preface the translator points out that to write a treatise on a subject of this kind, the author must himself have conducted extensive original researches on the phenomena of radio-activity. This was one of the reasons for selecting Dr. Russell's text-book, which is also better adapted for translation than the more comprehensive treatises, since the latter would be in need of revision almost as soon as the translation was in the hands of the student.

The Czech edition closely follows the original work, but additions have been necessitated by the latest progress in this ever-expanding branch of physical chemistry. In his preface Dr. Šimek acknowledges the author's careful revision of the original English edition for the purpose of bringing the translation entirely up-to-date.

*Strength of Materials.* By Prof. Alfred P. Poorman. Pp. xi+313. (New York: McGraw-Hill Book Co., Inc.; London: McGraw-Hill Publishing Co., Ltd., 1925.) 15s. net.

THERE appears to be a large demand in the United States for good engineering text-books of a theoretical type but of rather elementary standard. According to the preface, the present work is intended ". . . for use in undergraduate courses in Mechanics . . ." and it might serve as a useful introduction to the subject in the junior classes of engineering schools in Great Britain. The ground covered is not extensive, being confined to a discussion of the more ordinary problems in the theory of beams, shafts, and columns. Combined stresses are only dealt with in a few very simple cases, and the amount of elastic theory given is decidedly meagre, even for an introductory work. A large number of practical examples to be worked by the student are distributed throughout the work, appearing at the end of almost every article. The book is, however, carefully written, and the various figures throughout the text have been admirably reproduced. The treatment of the subject matter follows orthodox lines, and two chapters in the later part of the book are devoted to special methods of solving problems on the deflexion of beams.

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