Statistical Dictionary of Terms and Symbols

By Dr. Albert K. Kurtz and Dr. Harold A. Edgerton. Pp. xii+91. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1939.) 12s. net.

THE authors have collected their data from a number of current text-books and periodicals, and have been aided by an advisory council comprising some of the best-known American statisticians. Only definitions and occasional illustrative comments are given. This is in no sense a source book like Mulhall's famous "Dictionary of Statistics."

There is undoubtedly scope for a book of this kind, if only to help in standardizing nomenclature. Indeed, one of the most striking things brought out by the present work is the variety of names applied to the simplest statistical concepts. No fewer than eighteen synonymous terms are given for the normal distribution. For the figure known to English statisticians as the "scatter diagram" there are a dozen equivalent terms of varying degrees of cacophony, etymological impurity and sheer inaccuracy, such as "scatterplot", "scattergraph" and "double frequency table". The authors have been very chary of exercising the lexicographic prerogative by condemning any of these expressions as bad usage.

There are errors of both commission and omission in this book. The Gram-Charlier Type B series (p. 70) is not the same as the Poisson series; Bayes' principle (p. 16) is not the same as Bayes' theorem; the tetrachoric functions (p. 176) are not the same, except for sign, as Hermite's polynomials (which, by the way, are due to Tchebycheff, not to Hermite); the function usually denoted by t is not the ratio of a statistic to its standard error (p. 174). Of the five definitions of "error" on page 56 the first is "the observed value of a variable minus the true value. Not to be confused with deviation from the mean", and the fifth is "same as deviation from the mean". No doubt both usages exist, but the caution against confusion reads rather oddly. Among the omissions may be noted the absence of definitions of serial correlation, distributed lags, orthogonal polynomials, conditional statistics, Latin squares, random sampling numbers, divided differences, Edgeworth's translated frequency curves, cumulants and characteristic functions.

A dictionary of this kind will be generally useful and it is to be hoped that subsequent editions will see the incorporation of the many improvements which are possible.

M. G. KENDALL.

In Search of Northern Birds

By Seton Gordon. Pp. 224+16 plates. (London: Eyre and Spottiswoode (Publishers), Ltd., 1941.) 15s. net.

SETON GORDON has again recaptured the air and charm of the lonely hills and islands of the north, and in his usual inimitable style. Few naturalists have described these solitudes so often and so pleasantly. The descriptions of well-loved hills and islands are interspersed with observations on birds and beasts and flowers.

It is a wide range that Seton Gordon embraces in his search of these fastnesses, and his notes on winter-day wanderings have perhaps a special value to most of us who only know these places in summer. He takes us from Lambay Island (Rechru) in the

Irish Sea, and from the Pembrokeshire Islands, through the Hebrides (with a note on the little Northumbrian Island of Coquet) as far north as Iceland. On the north coast of Iceland, near Akureyri, he saw birches twenty feet high. At Lake Myvatn the flies drive even the hardiest fisherman to abandon the splendid trout-fishing. In the Westmann Islands he reminds us of the gannet colony at Súlasker, and we can add that we have seen gannetries also on the neighbouring islets of Geldungur, Hellisey and Brandur, making a pretty large colony of probably four thousand breeding pairs.

Back in the Cairngorms, Seton Gordon asks how is it that moss can survive under snow for perhaps more than a year. He tells us that at the present day the marten still survives in the far north-west of Scotland, while the wild cat is not in danger of extermination.

R. M. L.

Electric Power Stations

By T. H. Carr. Vol. 2. Pp. xv+440. (London: Chapman and Hall, Ltd., 1941.) 32s. net.

THIS book, which deals with the electrical equipment of power station plant, is a companion volume to the author's earlier work on the mechanical side of the subject, and the two together constitute a very informative survey of modern station practice. The subject arrangement of the present volume betokens the authority with which the author writes and it covers alternators, condensing plant, feed-heating and water-treatment plant, transformers and reactors, switchgear, cabling and cables, oils, station auxiliaries, electrical protective equipment, station lighting, commissioning and testing of plant, station organization, station costs, and fire fighting and A.R.P.

Broadly, the book embraces considerations of design, construction and operation, and it contains numerous line and half-tone illustrations and detailed calculations where desirable. Many tables are included and a bibliography is given at the end of each chapter to facilitate further study.

As Sir Leonard Pearce says in his foreword, the book will be valuable in enabling specialists to keep contact with branches of engineering other than their own.

Algebraic Solid Geometry

An Introduction. By S. L. Green. Pp. vii+133. (Cambridge: At the University Press, 1941.) 6s. net.

THIS little book, based on courses of lectures given to students of Queen Mary College, London, may be regarded as an attempt to reduce the subject of algebraic solid geometry to a minimum. There are six chapters, dealing respectively with co-ordinates and direction-cosines, the plane and straight line, the sphere, the central quadrics, the paraboloids and the cone. The number of diagrams is only fourteen, which is scarcely sufficient. The second diagram has to serve for two different theorems, and does not show all the points mentioned in them. The examples include several from recent examination papers of the University of London. The general impression conveyed by the book is that the author's primary object was to make the subject as easy as possible, but that he has been handicapped in this by having to consider also the need for economy in paper.