

there is throughout a close correlation between the results of research and their technological applications. The team has, in fact, done its work very well indeed and has produced a comprehensive and up-to-date volume which all interested in the pure and applied chemistry of wood will wish to possess. Unfortunately the high price may prevent a number of them doing so.

JULIUS GRANT

Methods of Statistical Analysis

By Cyril H. Goulden. (Wiley Publications in Statistics.) Second edition. Pp. vii+467. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1952.) 60s. net.

THE first edition of this book was published in 1939. This second edition is almost a new book. After three introductory chapters, it deals with analysis of variance, regression and analysis of covariance. It then proceeds to experimental designs and, in particular, to incomplete block and factorial experiments. There follow chapters on non-orthogonal data, goodness of fit, the discriminant function and probit analysis. A final chapter on quality control has been added, but it seems rather out of key with the rest of the work.

Any scientific worker, whatever his field, who wishes to know the nature and scope of the subject, can scarcely do better than begin with this book by C. H. Goulden. Deriving his inspiration from the work of R. A. Fisher, the author runs very lightly over what J. B. S. Haldane once called anti-halaeutic statistics: he arrives at the analysis of variance in Chapter 4 without having discussed standard errors in large sample theory. Some preliminary reading might therefore be recommended to the beginner before he embarks on the book; but once it has been carried out, he can be safely entrusted to Dr. Goulden's concise and careful treatment. This is quite one of the best introductions to modern statistical methods in experimentation that has yet appeared.

M. G. KENDALL

Atomic Transmutation

The Greatest Discovery ever Made; from Memoirs of Prof. Frederick Soddy. By Muriel Howorth. Pp. 134+4 plates. (London: New World Publications, 1953.) 12s. 6d.

IN order to explain the phenomena of radioactivity, Rutherford and Soddy, working together at McGill University, put forward fifty years ago the theory that the atoms of a radioactive substance undergo a process of disintegration which gives rise to the formation of a new atom distinct in physical and chemical properties from its parent. This natural transmutation of the radioactive elements is hailed by the author of this book as "the greatest discovery ever made by man in the history of time". It is her contention, and most of us would agree with her, that the outstanding developments which followed from that initial discovery must be made known to all, both men of science and laymen. However, we may not all agree with the methods she adopts and advocates.

Miss Muriel Howorth is the founder of the Institute of Atomic Information for the Layman, and at the Institute's meeting held on February 28, 1953, the jubilee of Rutherford and Soddy's discovery, Prof. Soddy was invited to talk about those days, "Just fifty years ago". The text of his address, together with the opening proceedings of the meeting, form part of the volume under review. Prof. Soddy

describes in no modest vein the series of events and experiments in which he participated, during the early part of the century. As a kind of introduction to the speaker, Miss Howorth has written these memoirs of Prof. Soddy in which she manages, in the course of what can best be described as a newspaper interview by an over-admiring reporter, to recount mainly in Prof. Soddy's own words his early life and his experimental work up to 1904.

Practical Chromatography

By R. C. Brimley and F. C. Barrett. Pp. 128. (London: Chapman and Hall, Ltd., 1953.) 15s. net.

IN view of the recent spate of books on chromatography, any new book, in order to have any value, must either present an up-to-date review of research on this subject or else must deal with it in such a way that any newcomer to the field should be able to adopt the technique directly to his own problem. In view of this, any short monograph on the subject, such as this one by R. C. Brimley and F. C. Barrett, is of doubtful value. No part of the subject is dealt with at sufficient length, and in addition the proof-reading has been such as to allow a number of glaring mistakes to creep in. For example, a separation showing peaks labelled ammonia, mono-, tri- and di-methylamines is described as showing the separation of fatty acids.

The field of chromatography is now so vast that the main need is for detailed monographs or frequently published critical reviews, and books such as this one fall into neither category.

A. T. JAMES

Woodland Ecology

By Ernest Neal. (The Scholarship Series in Biology.) Pp. xii+107. (London: William Heinemann, Ltd., 1953.) 6s.

THIS is an admirable little book for teachers of biology and for sixth-form students in schools, for whom it is primarily intended. Mr. Ernest Neal has written with the definite aim of helping the student to find out for himself the general pattern of woodland ecology and has achieved something intensely practical that must appeal to keen naturalists of any age.

Limitations of space set a difficult task in dealing adequately with a habitat so complex and so varied, but the task has been successfully tackled by taking the first-hand study of a particular woodland and pointing the way from this. Throughout there is emphasis on integration of details, and the reader is left with an overall picture of the wholeness of the woodland community.

The earlier chapters are concerned with plant ecology, providing the necessary foundation for a proper understanding of the animals and their food relationships. Practical advice is given on methods of finding and collecting animals and on equipment for studying microclimates. The discussion of various types of food chain has much to guide the reader in the fascinating work of tracking down these inter-relationships. The remainder of the book is largely devoted to a consideration of different kinds of adaptations of behaviour and structure which are of value to animals in their competition for food, self-preservation, reproduction and dispersal. There are several good photographs; also included are an appendix giving concrete suggestions for the study of woodland ecology in schools, and a short bibliography.

MAURICE ASHBY