

Clinical and Pathological Applications of Spectrum Analysis;

with Notes on Spectrography in Chemistry and Mineralogy, and Tables for Qualitative Analysis. Being the authorised translation of Part 2 of "Die chemische Emissionsspektralanalyse". By Dr. Walther Gerlach and Dr. Werner Gerlach. Translated by Joyce Hilger Twyman. Pp. 143. (London: Adam Hilger, Ltd., 1934.)

THIS book is a valuable addition to the literature of a field of inquiry of growing importance and significance, and is especially welcome at a time when physical methods are being increasingly applied to fundamental biological and clinical problems.

It consists very largely of experimental details and results of work by the authors on the emission spectra of living tissues. Various methods of exciting such emission spectra of animal and vegetable structures are described and criticised, the spark method being strongly advocated. The fundamental aim of the experiments is a knowledge of the chemical topography of the tissues. The method of exciting luminosity by the use of a high-frequency discharge from a metal electrode to the tissue placed on a glass plate and suitably moistened makes practicable, it is claimed, the examination of substances of nearly any nature. By such methods important medical problems such as the normal or pathological metabolism of certain elements may be investigated, or the ultimate fate of heavy metals used therapeutically may be established. The 'chemical' analysis of such tissues as skin appears, moreover, to be of forensic importance in cases of gunshot wounds, when the distribution of lead, copper or nickel may give clues to the direction and distance from which the shot was fired. These dramatic uses, however, are probably of far less real importance than the study of the routine distribution of metals such as copper or iron, or the analysis of urine.

The quantitative aspects are discussed and it is concluded that such measurements can be made, but evidently here many experimental difficulties arise.

The translation is admirable, apart from some verbal infelicities or traces of German spelling still adhering to the text. W. V. M.

The Problem of Noise

By Prof. F. C. Bartlett. (The Cambridge Miscellany, Vol. 15.) Pp. x+87. (Cambridge: At the University Press, 1934.) 3s. 6d. net.

THIS little volume is based on two lectures delivered by Prof. Bartlett before a London audience. The experimental work on noise carried out by psychologists, including the author, is summarised in a very interesting manner, and a list of references is given. The effect of noise on the output of a healthy worker is shown to be small and temporary; but because of the association of noise with the fear reaction, its psychological influence may be considerable. The case for serious attempts to reduce noise is clearly stated, and several directions in which these attempts might be made are indicated.

An Economic Survey of the Colonial Empire (1933)
Issued by the Colonial Office. Pp. vi+573. (London: H.M. Stationery Office, 1935.) 25s. net.

THIS is a revised and enlarged edition of the first issue, which appeared last year. A further edition is promised at the end of 1936. For every one of the Crown Colonies, Protectorates and Mandated Territories a full account is given of position, area, the chief facts of climate, population, races, occupation of inhabitants, public finance, trade, natural resources and communications. No other publication gives such a mass of orderly information about the colonies, and the volume has the further advantages of being authoritative and of conforming to a uniform arrangement throughout.

The second part of the volume is occupied with an account of the conditions of growth and marketing of the principal economic products of the Colonial Empire. The net is cast so wide that many unusual and little-known products are included. Finally, there are numerous statistical tables of the export of various commodities. The whole book may be regarded as a complete economic geography of the Colonies and Protectorates, and is certainly the only volume of its kind available. The Colonial Office has produced a volume of outstanding interest.

An Introduction to Projective Geometry

By Prof. L. N. G. Filon. Fourth edition. Pp. xviii+407. (London: Edward Arnold and Co., 1935.) 16s. net.

THE new edition of this valuable work differs so widely from the older ones, with many changes and additions, and more than twice the original number of examples, that it is almost a new book. Noteworthy features are the treatment of inversion, the circle of curvature, three-point and four-point contact, the harmonic envelope and locus of two conics, the plane cubic and quartic, and the focus-directrix property of the sphero-conic. The three-dimensional portions include homographic spaces, inpolar and outpolar quadrics, analogues of the complete quadrilateral and quadrangle, and the curvature of quadrics and twisted curves.

Modern Pure Solid Geometry

By Prof. Nathan Altshiller-Court. Pp. xi+311. (New York: The Macmillan Co., 1935.) 3.90 dollars.

THE scope of this book is more limited than its title indicates. The nine chapters deal respectively with preliminary ideas, trihedral angles, skew quadrilaterals, tetrahedra, transversals, oblique cones, spheres, inversion, and recent geometry of the tetrahedron. The treatment is synthetic; but excluding anharmonic ratios, involution, conics, and even the complete quadrilateral. On the other hand, the author uses the concept of the imaginary sphere. The book may be criticised for its limited scope, but it is a useful collection of theorems on elementary topics. In particular, the chapters on tetrahedra bring together information not readily accessible elsewhere.