

bers of Moseley give better agreement with the proposed relation than do the atomic ordinals of Rydberg. (7) The empirical results are discussed from the viewpoint of the quantum theory, and it is suggested that the integer n may be related to the number of electrons concerned in determining the crystalline space-lattice of the element in the solid state. (8) A relation similar in character is found to hold for certain electronic frequencies. In such cases ν_a must be replaced by $\nu_f = 3.289 \times 10^{15} \text{ sec.}^{-1}$ (Rydberg's constant). (9) This relation is considered with reference to the maximum of the photoelectric effect, the limiting frequency of this effect, ionisation potentials, and thermionic potentials.—Dr. C. Chree: Historical note on a relation between the gravitational attraction exercised and the elastic depression caused by load on the plane surface of an isotropic elastic solid.

Zoological Society, October 23.—Dr. A. Smith Woodward, vice-president, in the chair.—H. D. Badcock: Ant-like spiders from Malaya, collected by the Annandale-Robinson Expedition, 1901-2.—Miss Ruth C. Bamber: A hermaphrodite dogfish.

Mathematical Society, November 1.—Prof. H. M. Macdonald, president, in the chair.—J. H. Grace: Tetrahedra in relation to spheres and quadrics.—Prof. M. J. M. Hill: The continuation of the hypergeometric series.—Prof. W. H. Young: Restricted Fourier series and the convergence of power-series.—Prof. E. B. Stouffer: Invariants and covariants of linear homogeneous differential equations.—H. W. Turnbull: The simultaneous system of two quaternary quadratic forms.

BOOKS RECEIVED.

Principles of Quantitative Analysis. By Prof. W. C. Blasdale. Second edition. Pp. xii+402. (London: Constable and Co., Ltd.) 10s. 6d. net.

The Student's Handbook to the University and Colleges of Cambridge. Sixteenth edition, revised to June 30, 1917. Pp. vi+703. (Cambridge: At the University Press.) 6s. net.

Manuring for Higher Crop Production. By Dr. E. J. Russell. Second edition. Pp. vi+94. (Cambridge: At the University Press.) 3s. 6d. net.

The Chemistry of Linseed Oil. By Dr. J. N. Friend. Pp. vii+96. (Chemical Monographs.) (London: Gurney and Jackson.) 2s. 6d. net.

A Roumanian Diary, 1915, 1916, 1917. By Lady Kennard. Pp. vii+191. (London: W. Heinemann.) 5s. net.

The National Physical Laboratory. Report for 1916-17. Pp. 67. (Teddington: W. F. Parrott.)

The National Physical Laboratory. Collected Researches. Vol. xiii., 1916. Pp. 278+ng. (London: Harrison and Sons.)

Modern Whaling and Bear-Hunting. By W. G. Burn Murdoch. Pp. 320. (London: Secley, Service and Co., Ltd.) 21s. net.

The Distances, Absolute Magnitudes, and Spectra of 734 Stars. Arranged for Use with Ordinary Star Maps. By T. E. Heath. Pp. iv+52. (Tenby: Miss Crealock.) 2s. 6d. net.

Foods and their Relative Nourishing Value. By Prof. W. H. Thompson. Second edition. Pp. 38. (Dublin: University Press.) 4d. net.

The Pupils' Class-Book of Geography. Scotland. Pp. 96. Asia, with Special Reference to India. Pp. 128. By E. J. S. Lay. (London: Macmillan and Co., Ltd.) 7d. and 8d. respectively.

Biology. By Prof. G. N. Calkins. Second edition. Pp. viii+255. (New York: H. Holt and Co.)

The Born Fool. By J. W. Byrd. Pp. 316. (London: Chatto and Windus.) 6s. net.

NO. 2506, VOL. 100]

Probleme der Volksernahrung. By Dr. A. Lipschütz. Pp. 74. (Bern: Max Drechsel.) 2.80 francs.

Power Wiring Diagrams. By A. T. Dover. Pp. xv+208. (London: Whittaker and Co.) 6s. net.

Continuous-Current Motors and Control Apparatus. By W. P. Maycock. Pp. xvi+331+4 Appendices and Index. (London: Whittaker and Co.) 6s. net.

DIARY OF SOCIETIES.

THURSDAY, NOVEMBER 8.

ROYAL SOCIETY, at 4.30.—The Galvanometric Measurement of "Emotional" Physiological Changes: Prof. A. D. Waller.—The Structure, Evolution, and Origin of the Amphibia. I. The "Orders" Rachitomi and Stereospongiyli: D. M. S. Watson.—The Enzymes concerned in the Decomposition of Glucose and Mannitol by *Bacillus coli communis*. II. Experiments of Short Duration with an Emulsion of the Organisms. III. Various Phases in the Decomposition of Glucose by an Emulsion of the Organisms: E. C. Grey.

INSTITUTION OF ELECTRICAL ENGINEERS, at 6.—President's Address: C. H. Wordingham.

OPTICAL SOCIETY, at 8.—Certain Optical Stores Captured from the Enemy: Lt.-Col. A. C. Williams.

FRIDAY, NOVEMBER 9.

ROYAL ASTRONOMICAL SOCIETY, at 5.

PHYSICAL SOCIETY, at 5.—The Thermo-electric Properties of Fused Metals: C. R. Darling and A. W. Grace.—Triple Cemented Telescope Objectives: T. Smith and Miss A. B. Dale.

MONDAY, NOVEMBER 12.

ROYAL GEOGRAPHICAL SOCIETY, at 8.30.

THURSDAY, NOVEMBER 15.

ROYAL SOCIETY, at 4.30.—*Probable Papers*: Investigation into the Imbibition Exhibited by some Shellac Derivatives: A. P. Laurie and C. Ranken.—Phenomena connected with Turbulence in the Lower Atmosphere: G. I. Taylor.—The Relation between Barometric Pressure and the Water Level in a Well at Kew Observatory: E. G. Bilham.

INSTITUTION OF MINING AND METALLURGY, at 5.30.

FRIDAY, NOVEMBER 16.

INSTITUTION OF MECHANICAL ENGINEERS, at 6.

CONTENTS.

PAGE

Universities and the Supply of Research Workers. (With Diagram.)	181
British Ornithology	183
The Nutrition of Farm Animals	184
Ulugh Beg's Catalogue of Stars By J. L. E. D.	185
Our Bookshelf	186
Letters to the Editor:—	
Tidal Energy Dissipation.—Harold Jeffreys	186
The Proposed Ministry of Health	187
Prof. Adolf von Baeyer, For. Mem. R.S. By Prof. W. H. Perkin, F.R.S.	188
Notes	190
Our Astronomical Column:—	
The Meteoric Shower of October	194
Galactic Condensation of Stars	194
The Variability of B. D. + 56° 547'	194
The <i>Journal des Observateurs</i>	194
Military Aircraft and their Armament	194
Reports on Climates. By R. C. M.	195
Evolution of the Primates	195
Hereditary Characters in Relation to Evolution. By Prof. H. S. Jennings	196
University and Educational Intelligence	198
Societies and Academies	199
Books Received	200
Diary of Societies	200

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