

the excretory pigment in the epidermis, but when necessary, take up and digest for the benefit of the organism all the accumulated reserve substances.—Natural and artificial proto-phyllyne, by M. C. Timiriæzeff.—On some applications of Oceanography to Geology, by M. J. Thoulet.

DIARY OF SOCIETIES.

LONDON.

THURSDAY, MARCH 7.

ROYAL SOCIETY, at 4.30.—The Rubies of Burma and Associated Minerals: their Mode of Occurrence. Origin, and Metamorphoses. A Contribution to the History of Corundum. C. Brington Brown and Prof. Judd, F.R.S.—The Action of Heat upon Ethylene, Part II. Prof. V. B. Lewes.—On the Measurement of Pressures by the Crusher-Gauge: W. Kellner and W. H. Deering.

SOCIETY OF ANTIQUARIES, at 8.30.  
LINNEAN SOCIETY, at 8.—On the Genus Cupressus: Dr. Maxwell T. Masters, F.R.S.—On the Insects, Arachnida, and Crustacea collected during Mr. T. Bent's Expedition to Hadramant, Arabia: W. F. Kirby, Chas. Gahan, and R. I. Pocock.

CHEMICAL SOCIETY, at 8.—Dimethylketoexamethylene: Dr. Kipping.—The Use of Barium Thiosulphate in Standardising Iodine: Dr. Plimpton and T. C. Chorley.—The Magnetic Rotation of the Plane of Polarisation of Light by Liquids: J. W. Rodger and W. Watson.—Irimethylsuccinic Acid: Prof. W. H. Perkin, F.R.S., and Dr. W. Bone.

FRIDAY, MARCH 8.

ROYAL INSTITUTION, at 9.—The Physical Work of Von Helmholtz: Prof. A. W. Rücker, F.R.S.

PHYSICAL SOCIETY, at 5.—Exhibition, by Mr. Naber, of a Voltmeter.—(1) The Focal Helio-stat; (2) An Improvement in Siderostats. Dr. G. Johnstone Stoney, F.R.S.—On a New Harmonic Analyser: G. U. Yule.—On the Electromagnetic Field: H. N. Allen.

ROYAL ASTRONOMICAL SOCIETY, at 8.—Micrometrical Measures of the Diameter of the Satellites of Jupiter; Micrometrical Measures of the Ball and Ring System of Saturn, and of the Diameter of Titan: E. E. Barnard.—Transit of Mercury, 1894 November 10: W. F. Gale; J. P. Thomson.—A List of Probably New Double Stars: R. T. A. Innes.—Double Star Measures: W. H. Maw and J. Tebbutt.—Notes on the Variable Stars X and W Sagittæ: Lieut.-Colonel Markwick.—Note on a Suggested Form of Equatorial Mounting for a Modified Newtonian Reflector: Rev. C. D. P. Davies.—On the Proper Motions of B.A.C. 793 and Cephei 24 (Hev.): W. T. Lynn.—The Wilsonian Theory and the Stonyhurst Drawings of Sun-spots: Rev. W. Sidgreaves.—Observations of Encke's Comet: Royal Observatory, Greenwich.—An Apparatus for Mechanically Calculating Star Corrections: W. E. Cooke.—Note on the above Paper: Prof. H. H. Turner.

INSTITUTION OF CIVIL ENGINEERS, at 8.—The Coordinate System of Surveying as employed in South Africa: A. Struben.

MALACOLOGICAL SOCIETY, at 8.  
CLINICAL SOCIETY, at 8.30.

SATURDAY, MARCH 9.

ROYAL INSTITUTION, at 3.—Waves and Vibrations: Lord Rayleigh, F.R.S.

ROYAL BOTANIC SOCIETY, at 3.45.  
ESSEX FIELD CLUB (at Stratford), at 6.30.—Notes on the Remains of Pleistocene Mammals found in the Neighbourhood of Chelmsford: E. M. Newton, F.R.S.—Note on the Section at Chelmsford in which the Mammoth and other Remains were discovered, November 1894: T. V. Holmes.

SUNDAY, MARCH 10.

SUNDAY LECTURE SOCIETY, at 4.—Perpetual Motion: Douglas Carnegie.

MONDAY, MARCH 11.

ROYAL GEOGRAPHICAL SOCIETY, at 8.30.—Three Years' Travelling and Fighting in the Congo Free State: Captain S. L. Hinde.

AFFILIATED PHOTOGRAPHIC SOCIETIES (Cordwainers' Hall, E.C.), at 8.—The Physics and Chemistry of Development: Thomas Bolas.

MEDICAL SOCIETY, at 8.30.

TUESDAY, MARCH 12.

ROYAL INSTITUTION, at 3.—Internal Framework of Plants and Animals: Prof. C. Stewart.

INSTITUTION OF CIVIL ENGINEERS, at 8.—The Kidderpur Docks, Calcutta: William Duff Bruce.—Note on the Movement of the Walls of the Kidderpur Docks: James Henry Apjohn.

ANTHROPOLOGICAL INSTITUTE, at 8.30.—The Changes in the Proportions of the Human Body during the Period of Growth: Dr. Wingfield Hall.—Notes on the Language spoken in Madagascar: J. T. Last.

ROYAL PHOTOGRAPHIC SOCIETY, at 8.—An Unconsidered Property of Photographic Lenses: T. R. Dallmeyer.

ROYAL VICTORIA HALL (Waterloo Bridge Road), at 8.—Photographic Astronomy: Mr. Knobel.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY, at 8.30.  
ROYAL HORTICULTURAL SOCIETY, at 1.—The Diseases of Tomatoes and Vines.

WEDNESDAY, MARCH 13.

PHARMACEUTICAL SOCIETY, at 8.30.  
SOCIETY OF ARTS, at 8.—The Meat Supply of the United Kingdom: E. Montague Nelson.

THURSDAY, MARCH 14.

ROYAL SOCIETY, at 4.30.  
SOCIETY OF ANTIQUARIES, at 8.30.

MATHEMATICAL SOCIETY, at 8.—The Invariants of the Binary Quantic of Unlimited Order: The President.—Certain  $\pi$  Functions: F. H. Jackson.

INSTITUTION OF ELECTRICAL ENGINEERS, at 8.—The Electrolysis of Gold: N. S. Keith.

FRIDAY, MARCH 15.

ROYAL INSTITUTION, at 9.—The Rarer Metals and their Alloys: Prof. Roberts-Austen, C.B., F.R.S.

EPIDEMIOLOGICAL SOCIETY at 8.—The Value of Eucalyptus Oil as a Disinfectant in Scarlet Fever: Dr. Joseph Priestley.

QUEKETT MICROSCOPIC CLUB, at 8.

SATURDAY, MARCH 16.

ROYAL INSTITUTION, at 3.—Waves and Vibrations: Lord Rayleigh, F.R.S.

BOOKS, PAMPHLETS, and SERIALS RECEIVED.

BOOKS.—Elements of Pathological Histology: Dr. A. Weichselbaum, translated by Dr. W. R. Dawson (Longmans).—Le Léman: F. A. Forel, tome second (Lausanne, Rouge).—Everybody's Pocket Lawyer (Saxon).—A Treatise on Elementary Trigonometry: Dr. J. Casey, new edition (Dublin, Hodges).—Appareils Accessoires des Chaudières à Vapeur: Dubout and Crœmeau (Paris, Gauthier-Villars).—Traité des Bicycles et Bicyclettes: C. Bourlet (Paris, Gauthier-Villars).—Conic Sections: Dr. W. H. Besant 6th edition (Bell).—Organic Chemistry—the Fatty Compounds: R. L. Whiteley (Longmans).—Smithsonian Geographical Tables: R. S. Woodward (Washington).—Les Aurores Polaires: A. Angot (Paris, Alcan).—My Weather-wise Companion: B. T. (Blackwood).—The Fauna of British India, including Ceylon and Burma—Moths: G. F. Hampson, Vol. 3 (Taylor and Francis).

PAMPHLETS.—Index to the Literature of Didymium, 1842-1893 (Washington).—Report of S. P. Langley, Secretary of the Smithsonian Institution, for the Year ending June 30, 1894 (Washington).—Report on the Operations of the Department of Land Records and Agriculture, Madras Presidency, for the Official Year 1893-94 (Madras)—Zwei Neue Paradiesvögel: A. B. Meyer (Berlin, Friedländer).

SERIALS.—Natural Science, March (Rait).—Cassell's Magazine, March (Cassell).—Contemporary Review, March (Isbister).—Humanitarian, March (Hutchinson).—Bulletin de l'Académie Royale des Sciences, &c., de Belgique, 65<sup>e</sup> Année 3<sup>e</sup> série, tome 29. No. 1 (Bruxelles).—Zeitschrift für Physikalische Chemie, xvi, Band, 2 Hef (Leipzig, Engelmann).—Scribner's Magazine, March (Low).—Zeitschrift für Naturwissenschaften, 66 Band, 5 and 6 Hef, 67 Band, 1 to 5 Hef (Leipzig, Pfeiffer).—National Review, March (Arnold).

CONTENTS.

|  | PAGE |
|--|------|
| The Ancestry of the Vertebrates. By W. N. P. . . . .   | 433  |
| A Cyclopædia of Names . . . . .  | 434  |
| Our Book Shelf:—   |      |
| Walker: "Varied Occupations in Weaving" . . . . .  | 435  |
| Pease: "Horse Breeding for Farmers."—W. F. G. . . . .  | 435  |
| Hopkins: "Preparatory Physics" . . . . .   | 436  |
| Chambers: "The Story of the Stars" . . . . .   | 436  |
| "Aërial Navigation: Proceedings of the International Conference held at Chicago, August, 1893" . . . . . | 436  |
| Letters to the Editor:—  |      |
| Liquefaction of Gases.—M. M. Pattison Muir . . . . .   | 436  |
| Eleven-year Sun-spot Weather Period and its Multiples.—H. Helm Clayton . . . . .                         | 436  |
| Abnormal Atlantic Waves. (With Diagram.)—C. E. Stromeyer . . . . .                                       | 437  |
| The Presence of a Stridulating Organ in a Spider.—Prof. Baldwin Spencer . . . . .                        | 438  |
| The Spectrum Top.—Dr. Dawson Turner . . . . .  | 438  |
| The Age of the Earth. By Lord Kelvin, P.R.S. . . . .   | 438  |
| Notes . . . . .  | 440  |
| Our Astronomical Column:—  |      |
| Spectroscopic Measures of Planetary Velocities . . . . .   | 443  |
| The Satellites of Mars . . . . .   | 443  |
| Eclipse of the Moon, March 11 . . . . .  | 444  |
| The Nile. By Sir Colin Scott-Moncrieff, K.C.M.G., C.S.I. . . . .   | 444  |
| Observations of Sun-spot Spectra. (With Diagram.) By J. Norman Lockyer, C.B., F.R.S. . . . .             | 448  |
| Variation in Animals and Plants. By Prof. W. F. R. Weldon, F.R.S. . . . .                                | 449  |
| Science in the Magazines . . . . .   | 450  |
| University and Educational Intelligence . . . . .  | 451  |
| Scientific Serials . . . . .   | 451  |
| Societies and Academies . . . . .  | 452  |
| Diary of Societies . . . . .   | 456  |
| Books, Pamphlets, and Serials Received . . . . .   | 459  |