

other investigators. At a high degree of rarefaction in the vacuum-tubes the penetrating power of the rays through flesh and bone is very different, so that the outlines of the bones are very distinct, whilst, when the rarefaction is less great, these two bodies transmit the rays in about the same degree.—Prof. Kamerlingh Onnes made, on behalf of Dr. L. H. Siertsema, a communication on measurements of magnetic rotations, carried out in the Leyden Physical Laboratory. With the apparatus described in former communications determinations have been made of the absolute rotation constant of water, with the object of controlling the reduction-factor, with which the rotation determination has been reduced to an absolute measure. The result found is $0^{\circ}01302'$ at $13^{\circ}4'$, which corresponds very well with the constants found by Arons and by Rodger and Watson. A second communication again gave the results for gases, as they have undergone a slight alteration, owing to a necessary correction in the manometer readings.—Prof. Kamerlingh Onnes also communicated Dr. Zeeman's measurements on the variation of the absorption of electrical waves with the wave-length and the concentration of the electrolyte. The results, which hold good between limits given in detail in the paper, are: the coefficient of absorption changes as the square root of the conductivity of the solution, and it does not change, if conductivity and wave-length vary in the same ratio.—Prof. Engelmann communicated the results of an investigation into reflexes of the auricle of the heart, made by Mr. J. J. L. Muskens in the Utrecht Physiological Laboratory, by experimenting upon frogs' hearts.

DIARY OF SOCIETIES.

FRIDAY, OCTOBER 30.

PHYSICAL SOCIETY, at 5.—Special Meeting, after which, at an Ordinary Meeting—A Satisfactory Method of measuring Electrolytic Conductivity by means of Continuous Currents: Prof. W. Stroud and J. B. Henderson.—A Telemetric Spherometer and Focometer: Prof. W. Stroud.—An Experimental Exhibition: R. Appleyard.

SATURDAY, OCTOBER 31.

ESSEX FIELD CLUB, at 6.30 (at Chingford)—Short Report, by the Curator, on the first year's work at the Epping Forest Museum.—Our Forest Trees, and How they should be represented in the Museum: Prof. G. S. Boulger.—Notes on the Conference of Delegates of the Corresponding Societies of the British Association, Liverpool, 1896: T. V. Holmes.

MONDAY, NOVEMBER 2.

SOCIETY OF CHEMICAL INDUSTRY, at 8.—The Production of Inoculating Materials for Use in Agriculture (Nitragin): Dr. J. A. Voelcker.—The Smelting and Refining of Cyanide Bullion: Arthur Caldecott.

TUESDAY, NOVEMBER 3.

INSTITUTION OF CIVIL ENGINEERS, at 8.—Address by J. Wolfe Barry, C.B., F.R.S., the President.

WEDNESDAY, NOVEMBER 4.

GEOLOGICAL SOCIETY, at 8.—Additional Note on the Sections near the Summit of the Furka Pass (Switzerland): T. G. Bonney, F.R.S.—Geological and Petrographical Studies of the Sudbury Nickel District (Canada): T. L. Walker (communicated by J. J. H. Teall, F.R.S.).—On the Distribution in Space of the Accessory Shocks of the Great Japanese Earthquake of 1891.

ENTOMOLOGICAL SOCIETY, at 8.

INSTITUTION OF MECHANICAL ENGINEERS, at 7.30.—Research Committee on the Value of the Steam Jacket: Experiment on a Locomotive Engine: Prof. T. Hudson Beare and Bryan Donkin.—Transmission of Heat from Surface Condensation through Metal Cylinders: Lieut.-Colonel English and Bryan Donkin.

SOCIETY OF PUBLIC ANALYSTS, at 8.—Note on Ginger: Thos. B. Blunt.—The Determination of Searic Acid in Fats: Otto Hehner and C. A. Mitchell.—Further Note on Lead in Canadian Cheese: F. Wallis Stoddart.

THURSDAY, NOVEMBER 5.

CHEMICAL SOCIETY, at 8.—The Constitution of Nitrogen Iodide: Dr. F. D. Chattaway.—Note on the Solution and Diffusion of certain Metals in Mercury: Prof. Roberts-Austen, C.B., F.R.S.—Compounds of Metallic Hydroxides with Iodine: J. Rietze.—The Economical Preparation of Hydroxylamine Sulphate; The Reduction of Nitrosulphates; and Amidodisulphonic Acid: Dr. E. Divers, F.R.S., and Dr. T. Haga.—The Molecular Conductivity of Amidodisulphonic Acid: Joji Sakurai.—Physiological Action of Amidodisulphonic Acid: Dr. Oscar Loew.—Amidodisulphonates. Part II.: Dr. E. Divers, F.R.S., and Dr. T. Haga.—How Mercurous and Mercuric Salts change into each other: Seiichi Hada.—The Effect of Heat on Aqueous Solutions of Chrome Alum: Margaret D. Dougal.—The Saponification of Ethylic Dicarboxyl Glutamate: Dr. H. W. Bolam.—The Periodic Law: R. M. Desley.—The Colouring Matters occurring in British Plants: A. G. Perkin.—Carbohydrates of Cereal Straws: C. F. Cross, E. J. Bevan, and Claude Smith.

LINNEAN SOCIETY, at 8.—Mediterranean Bryozoa: A. W. Waters.—On some New Species of Crassula from South Africa: Dr. S. Schönland.—Holothurians of New Zealand: A. H. Dendy.

INSTITUTION OF MECHANICAL ENGINEERS, at 7.30.—Breakdowns of Stationary Steam-Engines: Michael Longridge.

FRIDAY, NOVEMBER 6.

GEOLOGISTS' ASSOCIATION, at 8.—Conversazione and Exhibition of Specimens.

BOOKS, PAMPHLET, and SERIALS RECEIVED.

BOOKS.—General Report on the Operations of the Survey of India Department, 1894-95 (Calcutta).—Practical Work in Physics; W. G. Woolcombe. Part 3. Light and Sound (Oxford, Clarendon Press).—Firth College, Sheffield, Sheffield School of Medicine, Calendar, 1896-97 (Sheffield).—Elements of Mechanics: Dr. T. W. Wright (Spon).—A History of Gardening in England: Hon. Alicia Amherst, 2nd edition (Quaritch).—Les Galets Coloriés du Mas d'Azil: Ed. Piette (Paris, Masson).—The Method of Darwin: F. Cramer (Chicago, McClurg).—Les Accumulateurs Electriques: F. Loppé (Paris, Gauthier-Villars).—Annalen der Kaiserlichen Universitäts-Sternwarte in Strassburg, i. Band (Karlsruhe).—Journal of the Right Hon. Sir Joseph Banks, edited by Sir J. D. Hooker (Macmillan).—Index Operum Leonardi Euleri: J. G. Hagen (Berolini, Dames).—Experience: Rev. W. Richmond (Sonnenschein).—A New Course of Experimental Chemistry, revised edition (Murby).—The Life and Letters of George John Romanes, new edition (Longmans).—Report on the Geodetic Survey of South Africa, executed by Lieut.-Colonel Morris in 1883-1892 (Cape Town, Richards).—Model Drawing and Sharing from Casts: T. C. Barfield (Chapman).—Cheese and Cheese-making, &c.: J. Long and J. Benson (Chapman).—An Introduction to Human Physiology: Dr. D. J. Waller, third edition (Longmans).—Die Mineralogie des Harzes, and Atlas: Dr. O. Luedecke (Berlin, Gehrüder Borntraeger).

PAMPHLET.—Sociedad Científica Argentina. Semillas y Frutos: Prof. A. Gallardo (Buenos Aires).

SERIALS.—Journal of the Chemical Society, October (Gurney).—Quarterly Review of Technical and Secondary Education, October (Macmillan).—Quarterly Review, October (Murray).—Psychologische Arbeiten, i. Band, 4 Hefte (Leipzig, Engelmann).—L'Anthropologie, tome vii. No. 4 (Paris, Masson).—American Naturalist, October (Philadelphia).—Journal of the Franklin Institute, October (Philadelphia).—Zeitschrift für Physikalische Chemie, xxi. Band, 1 Heft (Leipzig).—The Bachelor of Arts, October (New York).—Journal of Anatomy and Physiology, October (Griffin).—Astrophysical Journal, October (Chicago).—Brain, Parts 74 and 75 (Macmillan).—Royal Natural History, Part 36 (Warne).—Bibliotheca Geographica, Band 2, Jahrg. 1893 (Berlin, Kuhl).—Proceedings of the Royal Society, Edinburgh, Session 1895-96, Vol. XXI. No. 2, Pp. 65 to 160 (Edinburgh).—Journal of the Asiatic Society of Bengal, Vol. lxxv. Part 2, No. 2 (Calcutta).—Sunday Magazine, November (Isbister).—Good Words, November (Isbister).—Himmel und Erde, November (Berlin, Paetel).—American Journal of Psychology, Vol. viii. No. 1 (Worcester, Mass.).

CONTENTS.

	PAGE
Scientific Bibliography. By Dr. Henry E. Armstrong, F.R.S.	617
Palaeontology and Evolution	619
Gattermann's Practical Organic Chemistry. By F. S. K.	619
Our Book Shelf:—	
Clowes and Redwood: "The Detection and Measurement of Inflammable Gas and Vapour in the Air"	620
Lodge: "Mensuration"	620
Letters to the Editor:—	
Measurements of Crabs.—J. T. Cunningham	621
Some Effects of the X-Rays on the Hands.—S. J. R.	621
Habits of Chameleons.—A. Alex. Blakiston	621
Chameleons at the Zoological Society's Gardens.—Dr. P. L. Sclater, F.R.S.	622
The Organisation of Technical Literature.—M. Walton Brown	622
A Mechanical Problem.—"Cromerite"; J. P.	622
Extension of the Visible Spectrum.—Prof. Oliver J. Lodge, F.R.S., and Benjamin Davies	622
On the Communication of Electricity from Electrified Steam to Air. By Lord Kelvin, G.C.V.O., F.R.S., Dr. Magnus Maclean, and Alexander Galt.	622
The November Meteors. By W. F. Denning	623
The International Meteorological Conference in Paris. By Robert H. Scott, F.R.S.	624
Mars as seen at the Opposition in 1894. (Illustrated.) By Dr. William J. S. Lockyer	625
The Scientific Department of the Imperial Institute	627
Francois Felix Tisserand. By W. E. P.	628
Dr. Henry Trimen. By W. Botting Hemsley, F.R.S.	628
Notes	629
Our Astronomical Column:—	
Comet 1870 II	632
Comet Giacobini	632
Planetary Notes	633
Physiology at the British Association	633
Conference of Delegates of the Corresponding Societies	636
University and Educational Intelligence	638
Scientific Serials	638
Societies and Academies	639
Diary of Societies	640
Books, Pamphlet, and Serials Received	640