

curve. The author demonstrated (1) that the real melting temperature, *i.e.* that temperature at which solid and liquid have the same composition, is the highest temperature at which the solid can ever occur under that pressure; (2) that at that temperature a break in the melting-curve can occur only when the liquid contains no other molecules than complex ones of the composition of the solid.—Prof. Franchimont presented a paper by Dr. van Romburgh, of Buitenzorg, on the action of fuming sulphuric acid upon methylethylaniline and of chromic anhydride upon 2:4 dinitromethylethylaniline.—Prof. Kamerlingh Onnes presented, on behalf of Dr. W. van Bemmelen, of Utrecht, a paper entitled “Values of the terrestrial magnetic declination for the period of 1500-1700, and its secular variation during the period 1500-1850.”—Mr. Jan de Vries presented, on behalf of Dr. G. de Vries, of Haarlem, a paper entitled “The motion equations of cyclones.” After a discussion of the motion equations in cylinder coordinates, the hypotheses are made that the radian and the tangential velocities are independent of the height above the ground, and that the motion near the centre is symmetrical with respect to the axis of the cyclone.—Prof. Haga presented, on behalf of Mr. D. G. Tiddens, of Gröningen, a paper entitled “Observations on Fomm’s experiments on the wave-length of the X-rays.” On repeating Fomm’s experiments (*Wied. Ann.*, 1896) on the wave-length of the X-rays, it appeared that the maxima which the X-rays produce upon a photographic plate after passing through two narrow slits, do not obey the laws of diffraction; for each edge of the slit produces one maximum, while it depends upon the width of the slit, whether the two maxima coincide or even overlap each other, whereby, *e.g.* the left maximum is caused by the edge of the right slit. Consequently no conclusion can be drawn from these experiments as regards the wave-length.

DIARY OF SOCIETIES.

THURSDAY, APRIL 8.

ROYAL SOCIETY, at 4.30.—The Production of X-rays of different Penetrative Values: A. A. C. Swinton.—Photographic Spectra of Stars to the 3^d Magnitude: F. McClean, F.R.S.—Condensation of Water Vapour in the presence of Dust-free Air and other Gases: C. T. R. Wilson.—(1) Double (Antidrome) Conduction in the Central Nervous System; (2) Further Note on the Sensory Nerves of Muscles: Prof. Sherrington, F.R.S.—On the Breaking-up of Fat in the Alimentary Canal under Normal Circumstances and in the Absence of the Pancreas: Prof. V. Harley.—On the Application of Harmonic Analysis to the Dynamical Theory of the Tides, Part I.: S. S. Hough.—On Boomerangs: G. T. Walker.—Kathode and Lenard Rays: J. A. McClelland.

ROYAL INSTITUTION, at 3.—Roman Britain: Prof. W. Boyd Dawkins, F.R.S.

MATHEMATICAL SOCIETY, at 8.—On the Potentials of Rings: A. L. Dixon.—An Extension of a certain Theorem: Rev. F. H. Jackson.—On the Deformation of a Closed Polygon, so that a certain Function remains constant: F. S. Macaulay.—Ueber verzweigte Potentiale im Raum: Prof. A. Sommerfeld.

INSTITUTION OF ELECTRICAL ENGINEERS, at 8.—Recent Developments in Electric Traction Appliances: H. A. Baylor.

INSTITUTION OF NAVAL ARCHITECTS, at 12.—On the Fighting Value of certain of the Older Ironclads if re-armed: Captain the Right Hon. Lord Charles Beresford, C.B., R.N.—The Application of the Compound Steam Turbine to the Purpose of Marine Propulsion: Hon. Charles Parsons.—On the Use of the Mean Water-Line in designing the Lines of Ships: A. G. Ramage.—At 7.—The Accelerity Diagram of the Steam-Engine: J. Macfarlane Gray.—Note on the Geometry of Stability: J. Macfarlane Gray.—Acetylene, and its Probable Future Afloat: Prof. Vivian B. Lewes.

CAMERA CLUB, at 8.15.—The Phonograph: Mr. Stroh and F. C. B. Cole.

FRIDAY, APRIL 9.

ROYAL INSTITUTION, at 9.—The Limits of Audition: Lord Rayleigh, F.R.S.

PHYSICAL SOCIETY, at 5.—A Nickel Stress Telephone: T. A. Garrett and W. Lucas.—On Alternating Currents in Concentric Conductors: W. A. Price.—On the Effect of Capacity on Stationary Electrical Waves in Wires: W. B. Morton.

ROYAL ASTRONOMICAL SOCIETY, at 8.—A New Quadruple Stellar System: R. T. A. Innes.—On the Straightness of Spider Lines: H. H. Turner.—Observations of the Minor Planet (8) *Flora*: John Tebbutt.—The Orbit of Sirius: S. W. Burnham.—Micrometrical Measures of the Double Stars in the Great Nebula and Cluster surrounding η *Carinae*: T. J. J. See.—On some Original Observations of the Comet of 1652: E. B. Knobel.

INSTITUTION OF CIVIL ENGINEERS, at 8.—Poole Harbour: Harold Beridge.

INSTITUTION OF NAVAL ARCHITECTS, at 12.—Nickel Steel as an Improved Material for Boiler Shell-Plates and Forgings: William Beardmore.—Application of Electrical Transmission of Power in Marine Engineering and Shipbuilding: Herr F. von Kodolitsch.

MALACOLOGICAL SOCIETY, at 8.

SATURDAY, APRIL 10.

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

ROYAL BOTANIC SOCIETY, at 4.

GEOLOGISTS’ ASSOCIATION (Baker Street Station), at 1.37.—Excursion to Aylesbury, Hartwell, and Stone. Directors: A. M. Davies and Percy Emery.

ESSEX FIELD CLUB (at Theydon, &c.)—Fresh-water Algae: their Structure, Distribution, and Relationships: E. D. Marquand.

MONDAY, APRIL 12.

ROYAL GEOGRAPHICAL SOCIETY, at 8.30.—Fourth Centenary of the Voyage of John Cabota, 1497: Sir Clements R. Markham, K.C.B., F.R.S., President.

SANITARY INSTITUTE, at 8.—Sanitary Appliances: Dr. George Reid.

VICTORIA INSTITUTE, at 4.30.—The Scope of Mind: Dr. A. T. Schofield.

CAMERA CLUB, at 8.15.—Some Recent Investigations in X-Ray Work: Campbell Swinton.

TUESDAY, APRIL 13.

ANTHROPOLOGICAL INSTITUTE, at 8.30.—Some Points in connection with the Anthropology of the Kafirs of the Hindu Kush: Sir George S. Robertson, K.C.S.I.

INSTITUTION OF CIVIL ENGINEERS, at 8.—Paper to be discussed: The Blackwall Tunnel: David Hay and Maurice Fitzmaurice.

ROYAL HORTICULTURAL SOCIETY, at 1.—Artificial Manures.

PHARMACEUTICAL SOCIETY, at 8.

ROYAL PHOTOGRAPHIC SOCIETY, at 8.—Colour Measurement in Photography: C. F. Townsend.

ROYAL VICTORIA HALL, at 8.30.—Modes of Mountain Making: F. W. Rudler.

THURSDAY, APRIL 15.

LINNEAN SOCIETY, at 8.—On some New Irish Crustacea: A. O. Walker.—On Desmids from Singapore: W. and G. S. West.—Exhibition: Plants collected during Two Years’ Residence in Franz Josef Land: H. Fisher.

GEOLOGISTS’ ASSOCIATION (Charing Cross, S.E.R.), at 4.30.—Long Excursion to Walmer, St. Margaret’s, Dover, Folkestone, and Romney Marsh. Directors: George Dowker, W. F. Gwinnell, Dr. A. W. Rowe, and C. Davies Sherborn.

BOOKS, PAMPHLETS, and SERIALS RECEIVED.

BOOKS.—First Principles of Mechanical and Engineering Drawing: H. Holt-Butterfill (Chapman).—Rough Notes and Memoranda relating to the Natural History of the Bermudas: J. L. Hurdis (Porter).—Ferrets: N. Everitt (Black).—Wild Bird Protection and Nesting Boxes: J. R. B. Masefield (Leeds, Taylor).—Stones for Building and Decoration: G. P. Merrill, 2nd edition (New York, Wiley; London, Chapman).

PAMPHLETS.—Equipment and Work of an Aero-Physical Observatory: A. McAdie (Washington).—On the Forms of Plane Quartic Curves: R. Gentry (New York, Drummond).

SERIALS.—National Review, April (Arnold).—Humanitarian, April (Hutchinson).—Contemporary Review, April (Isbister).—Fortnightly Review, April (Chapman).—Astrophysical Journal, March (Chicago).—Scribner’s Magazine, April (Low).—Journal of the Royal Agricultural Society of England, Vol. viii. Part 1, No. 29 (Murray).—Bibliography of South African Geology: H. P. Saunders, Parts 1 and 2 (Cape Town).

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