

found that the electromotive force of magnetisation of soft iron increases with the temperature, this variation with the temperature being greater as the field is more intense. With bismuth the opposite effect is observed, the electromotive force of magnetisation falling off as the temperature is raised.—The action of the X-rays on conductors and on insulators, by M. J. Semenov.—On the alloys of aluminium. Compounds of aluminium with molybdenum, by M. Leon Guillet. By reducing molybdic acid with a large excess of aluminium three definite compounds were obtained corresponding to the formulæ  $Al_3Mo$ ,  $Al_2Mo$ ,  $AlMo$ , analyses of which are given.—On the alloys of aluminium and magnesium, by M. Boudouard. A set of determinations of the melting points of thirteen aluminium-magnesium alloys ranging from pure aluminium to pure magnesium. The curve of results presents three minima and two maxima, pointing to the existence of two definite compounds,  $AlMg_2$  and  $AlMg$ .—On the cellular structure of some metals, by M. G. Cartaud.—Acidimetry of phosphoric acid by baryta, strontia and lime, by M. J. Cavalier.—On the aluminium contained in mineral waters, by M. F. Parmentier. The author points out that in spite of numerous analyses of the waters from Puits Chomel and Grande Grille the presence of aluminium in notable quantity has been overlooked.—The action of isobutylene bromide on benzene in presence of aluminium chloride, by M. F. Bodroux. The principal products are a butyl-benzene and dimethyl-phenyl-benzyl-methane.—The action of the alkyl malonic esters upon the diazoic chlorides, by M. G. Favrel. Ethyl-methylmalonate, treated with a solution of diazobenzene chloride in presence of sodium acetate, gives the phenylhydrazone of ethyl pyruvate. Diazoparatoluene gives an analogous reaction.—On a new mode of decomposition of bisulphite derivatives, by MM. P. Freundler and L. Bunel. Alkaline nitrites may replace the alkaline carbonates in this reaction.—On the secondary products formed in the action of sulphuric acid upon wood charcoal, by M. A. Verneuil. The tetra-, penta- and hexa-carboxylic acids of benzene can be isolated from the residue.—On a new gregarian parasite of the mussel, by M. Louis Leger.—On the cilia of the Ctenophore and on ciliary insertions in general, by M. P. Vignon.—Experimental researches on the respiration of annelids. Study of *Spirographis Spallanzanii*, by M. Bounhiol.—The defensive or odoriferous glands of the cockroach, by M. K. Bordas.—On the structure of the shoot in ligneous plants, by M. Marcel Dubard.—On the proportion of water compared with the ripening of ligneous plants, by M. F. Kövessi.—On the electrolysis of animal tissues, by M. Édouard Branly.—The sources of iodine in the organism. The biological cycle of this metalloid, by M. P. Bourcet.—A method of preparing low brewery yeasts fermenting at a high temperature, by M. Georges Jacquemin.—The otoliths and audition, by M. Pierre Bonnier.—A case of trichosporia (*piedra nostras*) observed in France, by M. Paul Vuillemin.—On the thunderstorm in Paris of May 29, by M. J. Jaubert.

DIARY OF SOCIETIES.

THURSDAY, JUNE 13.

ROYAL SOCIETY, at 4.30.—Bakerian Lecture: Prof. James Dewar, F.R.S.—The Nadir of Temperature and Allied Problems. (1) Physical Properties of Liquid and Solid Hydrogen; (2) Separation of Free Hydrogen and other Gases from Air; (3) Electric Resistance Thermometry at the Boiling Point of Hydrogen; (4) Experiments on the Liquefaction of Helium at the Melting Point of Hydrogen; (5) Pyro-Electricity, Phosphorescence, &c.

MATHEMATICAL SOCIETY, at 5.30.—Remarks on the Quartic Curve  $2a^2\beta + m\beta^2y + ny^2a = 0$ : A. B. Basset, F.R.S.—The Theory of Cauchy's Principal Values, II.: G. H. Hardy.—The Rational Solutions of the Equation  $w^2 + v^2 + u^2 + \beta = 0$ : Prof. Steggall.—Invariants of Curves on the same Surface, in the Neighbourhood of a Common Tangent Line: T. Stuart.

FRIDAY, JUNE 14.

ROYAL ASTRONOMICAL SOCIETY, at 5.—Observations of Mars made at Mr. Edward Crossley's Observatory, Bermerside, Halifax, during the Opposition of 1900-01: J. Gledhill.—A Modified Form of Revolving Oculer for Adapting the Exposure of the Sun's Corona to its Actinic Intensity at all Distances from the Moon's Limb: D. P. Todd.—The Oxford Determinations of Stellar Parallax—Reply to Prof. Turner: Sir D. Gill.—Sun-spots and Magnetic Disturbance: W. Ellis.—Observations of Nova Persei made at Birr Castle, Parsonstown: The Earl of Rosse.—Secular Variation in the Period of R. Carinæ: A. W. Roberts.—The Great Comet of 1901, as observed at the Royal Observatory, Cape of Good Hope: Sir D. Gill.—The Oxford Determinations of Stellar Parallax—Further Reply to Sir D. Gill: H. H. Turner.—Measures of Double Stars made at Mr. E. Crossley's Observatory, Bermerside, Halifax: J. Gledhill.—Corrections to reduce the Revised Madras Catalogue of Stars for 1835-0 to the Fundamental Catalogue of Auwers: A. M. W. Downing.—The Lyrids, 1901 April, observed at Cambridge: J. C. W. Herschel.

PHYSICAL SOCIETY, at 5.—On Herr Jahn's Measurements of the Electromotive Force of Concentration Cells: Dr. R. A. Lehfeldt.—Exhibition of a Set of Specimens of Jena Glass: Prof. S. P. Thompson, F.R.S.  
MALACOLOGICAL SOCIETY, at 8.—Notes on *Ariophanta*, *Xestina*, *Nilgeria* and *Euplecta*: W. T. Blanford.—Pleistocene Shells hitherto unrecorded from the Raised Beach of Perim Island, Red Sea: Rev. R. Ashington Bullen.—On a Dibranchiate Cephalopod from the London Clay of Sheppy: G. C. Crick.—(1) Description of a New Species of *Acanthochites* from South Africa; (2) Description of a New Species of *Helicina* from the Pelew Island: E. R. Sykes.—On the Anatomy of *Helix politissima*, Pfeiffer, and its Generic Position in the Ariophantinae: Lieut.-Colonel H. H. Godwin-Austen.

TUESDAY, JUNE 18.

ZOOLOGICAL SOCIETY, at 8.30.—Observations on some Mimetic Insects and Spiders from Borneo and Singapore: R. Shelford.—Further Researches upon the Molluscs of the Great African Lakes: J. E. S. Moore.—On the Collections of Birds made by Dr. Donaldson Smith in Northern Somaliland: Dr. R. Bowdler Sharpe.

MINERALOGICAL SOCIETY, at 8.—On the Anharmonic Ratio of Four Faces in a Zone: Alfred Harker.—On the Arrangement of the Chemical Atoms in Potassium-Alum and in some of the Bodies which display Tetrahedral Symmetry: William Barlow.—Remarks on Calaverite: Herbert Smith.

ROYAL STATISTICAL SOCIETY, at 5.—The Recent Gold Production of the World: Wynnard Hooper.

WEDNESDAY, JUNE 19.

GEOLOGICAL SOCIETY, at 8.—On Intrusive Tuff-like Igneous Rocks and Breccias in Ireland: J. R. Kilroe and Alexander McHenry.—The Use of a Geological Datum: Beeby Thompson.

ROYAL METEOROLOGICAL SOCIETY, at 4.30.—The Eclipse Cyclone, the Diurnal Cyclones, and the Cyclones and Anticyclones of Temperate Latitudes: H. Helm Clayton.—The Seismograph as a Sensitive Barometer: F. Napier Denison.

ROYAL MICROSCOPICAL SOCIETY, at 8.—Examination of the Abbe Diffraction Theory of the Microscope: J. W. Gordon.

THURSDAY, JUNE 20.

ROYAL SOCIETY, at 4.30.  
LINNEAN SOCIETY, at 8.—On the Freshwater Algae of Ceylon: W. West and G. S. West.—On Coprophilous Fungi: George Masseur and E. Salmon.—Revision of the Genus *Hypericophyllum*, Steetz, with Notes on certain Genera with which it has been confused: N. E. Brown.

CHEMICAL SOCIETY, at 8.—Ballot for the Election of Fellows.—The Direct Union of Carbon and Hydrogen, Part II.: W. A. Bone and D. S. Jerdan.—Ammonium and other Imidosulphites: E. Divers and M. Ogawa.—Nitrosulphates: E. Divers and T. Haga.—The Decomposition of Hydrocarbons at High Temperatures: W. A. Bone and D. S. Jerdan.—The Sugars from Cellulose: H. J. H. Fenton.—On a Theory of Chemical Combination: G. Martin.—On the Occurrence of Paraffins in the Leaf of Tobacco: Dr. T. E. Thorpe, C.B., F.R.S., and John Holmes.—Studies in the Camphane Series, Part IV.: M. O. Forster.—On the Decomposition of Carbon Dioxide, when submitted to Electric Discharge at Low Pressures: Dr. J. N. Collie, F.R.S.—Two New Substances in Lemon Oil: H. E. Burgess.

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