of acetone and water, aniline and ethyl alcohol. In the case of the first mixture, the difference between the experimental figure and that calculated according to M. Leduc's hypothesis amounts as a maximum to four units in the fourth decimal place, in the second case the deviation amounts to double this amount. The conclusion is therefore drawn that the refractive energy, $n - 1/d$, is not constant in liquid mixtures within the limits of experimental error.—Variations of the temperature of the open air in the zone comprised between a height of 8 and 13 kilometres, by M. L. Teisserenc de Bort. The results of the discussion of observations carried out in 236 captive balloon experiments. These results represent all seasons of the year and cover several years.—On the manufacture of certain metallic tools by the Egyptians, by M. Albert Colson. Analysis of an ancient Egyptian bronze tool.—The composition of the hydrate of chlorine, by M. de Forcrand. By the application of the principle described in previous papers, the conclusion is drawn that the composition of chlorine hydrate is $Cl_2.7H_2O$.—On some derivatives of oxyisopropylphosphinic acid, by M. C. Marie. The mode of preparation and properties of the sodium, lead, copper and silver salts.—On the transformation of proteids in plants during germination, by M. G. André.—Observations on orogenic poles, by M. Stanislas Meunier.—Glycosuria of muscular origin; the appearance of glycuronic compounds and glycose in the urine of animals submitted to a ligature or crushing of the muscles, by MM. Cadeac and Maignon.—Does lipase exist in normal serum? by MM. Doyon and A. Morel. Hanriot has supposed that there exists in normal serum of vertebrates a soluble ferment, lipase, which possesses the power of saponifying organic esters. None of the experiments here given support this view, and the existence in normal serum of a lipase acting upon olein cannot be demonstrated.—On acute polymicrobial osteomylitis, by M. Ragalski. In a case of osteomylitis of the clavicle, both the coli bacillus and staphylococcus were found to be present in the blood from the bone.

GÖTTINGEN.

Royal Society of Sciences.—The *Nachrichten* (physico-mathematical section), part 1 for 1902, contains the following memoirs communicated to the Society:—

January 11.—Emil Bose: on the nature of the electrical conduction in Nernst's electrolytic luminescent oxides. M. Abraham: the dynamics of the electron.

January 25.—Alfred Loewy: on reducible linear homogeneous differential equations.

February 8.—W. Voigt: contributions to the theory of pleochroic crystals. O. Wallach: researches from the University Chemical Laboratory (series x.)—(1) new syntheses in the terpene series; (2) on the separation of α- and β-methyladipinic acid; (3) on a series of new isomeric cyclic ketones of the formulæ $C_9H_{14}O$ and $C_9H_{16}O$; (4) on the formation of ε-betaines; (5) on phellandrene. C. Jacobi: contribution to the physiological action of the organic ammonium iodides and polyiodides.

DIARY OF SOCIETIES.

THURSDAY, MAY 8.

IRON AND STEEL INSTITUTE, at 10.30 a.m.

ROYAL INSTITUTION, at 3.—Recent Geological Discoveries: Dr. A. Smith Woodward, F.R.S.

SOCIETY OF ARTS (Indian Section), at 4.30.—The Past and Present Connection of England with the Persian Gulf: T. J. Bennett.

MATHEMATICAL SOCIETY, at 5.30.—On Groups in which every two Conjugate Operations are Permutable: Prof. Burnside, F.R.S.—Fermat's Theorem on Binary Powers: A. E. Western.—The Application of Contour Integration to the Solution of Problems in the Theory of Conduction of Heat, and to the Development of an Arbitrary Function in Series: Mr. H. S. Carslaw.—The Application of Fourier's Series to the Conduction of Heat: Dr. Gamesh Prasad.—Some formulæ in Elimination: Dr. F. S. Macaulay.

INSTITUTION OF ELECTRICAL ENGINEERS, at 8.—Form of Model General Conditions. (Conclusion of Discussion).

FRIDAY, MAY 9.

PHYSICAL SOCIETY, at 5.—A Simple Electric Micrometer. Part I.: Dr. P. E. Shaw.—The Conservation of Entropy: J. A. Erskine.—Rational Units of Electromagnetism: Sig. G. Giorgi.

COLD STORAGE AND ICE ASSOCIATION (Society of Arts), Afternoon.—The Rationale of Cooling Phenomena: Dr. W. Hampson.—The Business Side of Cold Storage: R. J. Key.

ROYAL INSTITUTION, at 9.—Exploration and Climbing in the Canadian Rocky Mountains: Prof. J. Norman Collie, F.R.S.

ROYAL ASTRONOMICAL SOCIETY, at 5.—Jacobi's Nome (q) in Astronomical Formulæ, with Numerical Tables: R. T. A. Innes.—Series in the Nebular Spectrum, and in the Bright-line Spectrum of Nova Persei: E. F. J. Love.—The Spectrum of Nova Persei, 1901, on and after September 5: Rev. W. Sidgreaves.—Visual and Spectroscopic Observations of the Sun-spot Group of 1901 May 19–June 26: Rev. A. L. Cortie.—Reduction of Extra-Meridian Observations of Planets: P. H. Cowell.—Micrometrical Measures of Double Stars with the 17½-inch Reflector: Rev. T. E. Espin.—*Promised papers:* On the Accuracy of Photographic Measures. Second Note: H. C. Plummer.—Photographic Observations of the Satellite of Neptune: Royal Observatory, Greenwich.

MALACOLOGICAL SOCIETY, at 8.

MONDAY, MAY 12.

ROYAL GEOGRAPHICAL SOCIETY, at 8.30.—On Snow-Waves and Snow-Drifts in Canada: Dr. Vaughan Cornish.

VICTORIA INSTITUTE, at 4.30.—Some Diseases mentioned in the Bible: Dr. T. Chaplin.

HAMPSTEAD SCIENTIFIC SOCIETY, at 8.30.—The Relation of Science to Art: Sir Samuel Wilks, Bart, F.R.S.

TUESDAY, MAY 13.

ROYAL INSTITUTION, at 3.—Recent Geological Discoveries: Dr. A. Smith Woodward, F.R.S.

WEDNESDAY, MAY 14.

SOCIETY OF ARTS, at 8.—Boats and Boat Building in the Malay Peninsula: H. Warington Smyth.

GEOLOGICAL SOCIETY, at 8.—On Pliocene Glacio-Fluviatile Conglomerates in Subalpine France and Switzerland: Dr. Charles S. Du Riche Preller.—Overthrusts and other Disturbances in the Radstock Series of the Somerset Coalfields: F. A. Steart.

THURSDAY, MAY 15.

ROYAL SOCIETY, at 4.30.—*Probable papers:* Microscopic Effects of Stress on Platinum: T. Andrews, F.R.S., and C. R. Andrews.—Cyanogenesis in Plants. Part II. The Great Millet, *Sorghum vulgare*: Prof. W. R. Dunstan, F.R.S., and Dr. T. A. Henry.—The Minute Structure of Metals and other Plastic Solids: G. Beilby.—On Electro-Motive Wave accompanying Mechanical Disturbance in Metal immersed in Electrolyte: Prof. J. C. Bose.—On some Phenomena affecting the Transmission of Electric Waves over the Surface of the Sea and Earth: Capt. H. B. Jackson, R.N., F.R.S.

INSTITUTION OF ELECTRICAL ENGINEERS (Society of Arts), at 8.—Electrical Traction on Steam Railways in Italy: Prof. C. A. Carus-Wilson.

CHEMICAL SOCIETY, at 8.

FRIDAY, MAY 16.

ROYAL INSTITUTION, at 9.—The Nebular Theory: Sir Robert Ball, F.R.S.

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