

with the temperature, requiring several months at 250°, five weeks at 350°, seventy hours at 440°, and only one hour at 600°. Starting with the system silver, hydrochloric acid, a limit was similarly obtained for each temperature; but the final state of equilibrium was not the same as in the first case for temperatures below 600°. It is an example of the false equilibrium of M. Duhem.—On camphenylone, by MM. E. E. Blaise and G. Blanc. Camphenylone is treated with nitrogen peroxide at 0°, and the nitrate converted into camphenylone by treatment with potash. This ketone is treated with hydroxylamine, and the oxime dehydrated with acetyl chloride. The nitrite thus obtained gives on reduction a base, which is not identical with dihydroaminocampholene or the aminocampholenes. Hence camphenylone and its derivatives do not contain the trimethylcyclopentanic ring which exists in bodies belonging to the camphor series.—The colouring matter of digitalis, by MM. Adrian and A. Trillat. The new substance forms yellow needles, and has the composition C₁₆H₁₂O₄. It is very stable towards chemical reagents.—On an experiment relating to submarine currents, by M. J. Thoulet.—The resistance of seeds to high temperatures, by M. Victor Jodin. If seeds are gradually dried they will resist a temperature of 100°. Thus some seeds heated directly to 98° for ten hours were all killed; but if heated for twenty-four hours at 60° and then ten hours at 98°, from 30 to 60 per cent. of the seeds germinated.—On the glacial period in the Central Carpathians, by M. E. de Martonne. A detailed topographical study confirmed the views of Lehmann, showing undoubted signs of glacial action in the Carpathians.—The negative variation is not an infallible sign of nervous activity, by M. A. Herzen.—Cellular embolism, by MM. Charrin and Levaditi.—On a case of endothelioma of bone, by M. Paul Berger.

DIARY OF SOCIETIES.

THURSDAY, DECEMBER 7.

ROYAL SOCIETY, at 4.30.—Vapour-density of Bromine at High Temperatures: Dr. E. P. Perman and G. A. S. Atkinson.—Polytremacis and the Ancestry of Helioporidae: Dr. J. W. Gregory.—Gold Aluminium Alloys: C. T. Heycock, F.R.S., and F. H. Neville, F.R.S.—On the Association of Attributes in Statistics; with Examples from the Material of the Childhood Society, &c.: G. U. Yule.—Data for the Problem of Evolution in Man. III. On the Magnitude of certain Coefficients of Correlation in Man, &c.: Prof. Karl Pearson, F.R.S.
 INSTITUTION OF ELECTRICAL ENGINEERS, at 8.—The Cost of Steam Raising: John Holliday.—Influence of Cheap Fuels on the Cost of Electrical Energy: R. E. Crompton. (Adjourned Discussion.)
 LINNEAN SOCIETY, at 8.—On some Vegetable Poisons used for the Capture of Fish by the Australian Aborigines: J. W. Fawcett.—On some New Zealand Schizopoda: G. M. Thomson.—On the Structure of Porites: H. M. Bernard.
 CHEMICAL SOCIETY, at 8.—Ballot for the Election of Fellows.—The Oxidation of certain Organic Acids in presence of Iron: H. J. H. Fenton, F.R.S., and H. O. Jones.—The Determination of the Constitution of Fatty Acids, Part II.: Dr. A. W. Crossley and H. R. Le Sueur.—On Sulphates of the Form R₂SO₄, 2M⁺SO₄, especially those of Isometric Crystallisation: F. R. Mallet.
 RÖNTGEN SOCIETY, at 8.—Observations on Practical X-Ray Work, with Exhibition of Apparatus and Stereoscopic Skiagrams: Mackenzie Davidson.—Bullet in the Brain: J. Moore.

FRIDAY, DECEMBER 8

PHYSICAL SOCIETY (City and Guilds' Technical College, Leonard Street, Finsbury), at 5.—Cylindrical Lenses: Prof. Silvanus Thompson, F.R.S.—Exact Formulæ for Lenses: T. H. Blakesley.—On an Organic Compound of Great Double-Refraction: Prof. Silvanus Thompson, F.R.S.
 ROYAL ASTRONOMICAL SOCIETY, at 8.—Note on the Values of the Coefficients of the Terms of the Third Order in the Lunar Theory: E. W. Brown.—Observations of the Leonids at the University Observatory, Oxford: H. H. Turner.—On the Proper Motions of Berlin B. 5072 and 5073: F. A. Bellamy.—New Nebulae discovered Photographically with the Crossley Reflector of the Lick Observatory: J. E. Keeler.—Observations of the Leonids: Durham Observatory.—On the Relation between Magnetic Disturbance and the Period of Solar Spot Frequency: W. Ellis.—The Extra-Equatorial Currents of Jupiter in 1899: Rev. T. E. R. Phillips.
 MALACOLOGICAL SOCIETY, at 8.—On the Anatomy of *Hemiplecta flavescens*, Smith, from Perak, with Notes on some other Eastern Genera: Lieut.-Colonel H. H. Godwin-Austen.—(1) Note on *Ampullaria bardi*, Granger; (2) Description of a New Species of *Leptopoma* from Borneo: E. A. Smith.—Note on the Anatomy of *Zonites kollei*, Kobelt: W. E. Collinge.—On some Recent Conchological Discoveries in Victoria: Mrs. A. F. Kenyon.
 INSTITUTION OF MECHANICAL ENGINEERS, at 8.—A Continuous Mean-Pressure Indicator for Steam-Engines: Prof. William Ripper.

MONDAY, DECEMBER 11.

SOCIETY OF ARTS, at 8.—Art Enamelling upon Metals: H. H. Cunyng hame.
 ROYAL GEOGRAPHICAL SOCIETY, at 8.30.—A Journey through Abyssinia to the Nile: H. Weld Blundell.

NO. 1571, VOL. 61]

TUESDAY, DECEMBER 12.

INSTITUTION OF CIVIL ENGINEERS, at 8.—Combined Refuse-destroyers and Power-plants: C. Newton Russell.
 ANTHROPOLOGICAL INSTITUTE, at 8.30.—Survival in Primitive Rites of the Disposal of the Dead, with special reference to India: Wm. Crooke.
 ROYAL PHOTOGRAPHIC SOCIETY, at 8.—(1) Notes on the Use of the Dallmeyer Focometer; (2) The Origination of Printing Types by Photographic Methods: T. Bolas.

WEDNESDAY, DECEMBER 13.

SOCIETY OF ARTS, at 8.—Sea Angling and Legislation: F. G. Aflalo.

THURSDAY, DECEMBER 14.

ROYAL SOCIETY, at 4.30.
 SOCIETY OF ARTS, at 4.30.—Round about the Andamans and Nicobars: Colonel R. C. Temple.
 MATHEMATICAL SOCIETY, at 8.—Sums of Greatest Integers: G. B. Mathews, F.R.S.—Note on Circular Cubics: A. B. Basset, F.R.S.—Formulæ involving Central Differences; and their Application to the Calculation and Extension of Mathematical Tables: W. F. Sheppard.—On the Expression of Spherical Harmonics as Fractional Differential Coefficients: J. Rose-Innes.—The Genesis of the Double Gamma Functions: E. D. Barnes.
 INSTITUTION OF ELECTRICAL ENGINEERS, at 8.—Discussion on Mr. Crompton's and Mr. John Holloway's Papers.—Electrical Time Service: F. Hope-Jones.

FRIDAY, DECEMBER 15.

EPIDEMIOLOGICAL SOCIETY, at 8.30.
 INSTITUTION OF CIVIL ENGINEERS, at 8.—On Sludge: Blamey Stevens.

CONTENTS.

PAGE

Lyon Playfair's Life. By H. E. R. 122
 The Gold-Fields of Alaska. By G. W. L. 122
 A New Text-Book on Chemistry. By W. A. S. . . . 125
 Our Book Shelf:—
 Earl: "Elements of Natural Philosophy" 125
 Cooper: "Elementary Practical Chemistry" 126
 Reynolds: "The Teaching of Geography in Switzerland and North Italy" 126
 Herdman: "Liverpool Marine Biology Committee's Memoirs. I. Ascidia" 126
 Muir: "The Story of the Wanderings of Atoms, especially those of Carbon" 126
 Ormerod: "General Index, by Robert Newstead, F.E.S., Curator of the Grosvenor Museum, Chester, to Annual Reports of Observations of Injurious Insects, 1877-1898."—W. F. K. 126
 Sharpe: "A Hand-List of the Genera and Species of Birds" 126
 Physicist: "Human Nature: its Principles and the Principles of Physiognomy" 127
 Letters to the Editor:—
 The Cause of the Darjeeling Landslips.—T. H. Holland 127
 Barisal Guns.—Henry S. Schurr 127
 Butterfly Shadows.—Commander D. Wilson-Barker . 128
 A Canadian Lake of Subterranean Inflow.—Andrew T. Drummond 128
 Cause of Recent Sunset Colours.—Horace Darwin . 128
 Substitute for Gas in Laboratories.—William Gannon 128
 The Methods of Inorganic Evolution. By Sir Norman Lockyer, K.C.B., F.R.S. 129
 Testimonial to Major-General Sir J. F. D. Donnelly, K.C.B. 132
 The November Meteors. By Dr. W. J. S. Lockyer . 132
 Ferdinand Tiemann 133
 Notes. (Illustrated.) 134
 Our Astronomical Column:—
 Astronomical Occurrences in December 137
 Mercury and Jupiter as Morning Stars 137
 Holmes' Comet (1899 *d*) 137
 Comet Giacobini (1899 *e*) 137
 Spectrum of P Cygni 137
 Anniversary Meeting of the Royal Society 137
 Stereochemistry and Physiology 140
 University and Educational Intelligence 141
 Societies and Academies 142
 Diary of Societies 144