

barometer.—The earthquakes due to folding in the Erzgebirge, by M. F. de Montessus de Ballore. The numerous slight earthquakes in this region are traced to the effect of three long folds in the strata, the Erzgebirge being the longest and highest of the three.—On the aberration of sphericity of the eye, by M. Georges Weiss.—The preparation and properties of strontium hydride, by M. Henri Gautier. A strontium-cadmium alloy containing about 45 per cent. of strontium is heated in a current of hydrogen to a dull red heat. The hydrogen is slowly absorbed and the cadmium volatilised. Towards the end of the operation the temperature is raised until the mass is fused. Analyses of the compound showed that its composition was SrH_2 . It proved to be analogous both in composition and properties to the calcium hydride of Moissan.—On the chemical equilibrium of the iron-carbon systems, by MM. Georges Charpy and Louis Grenet. The theory of Bakhuis-Roozeboom on the constitution of the compounds of iron and carbon, although complete from the theoretical side, has met with some objections from the practical point of view. The separation of graphite would appear to be largely conditioned by the amount of silicon present. An experimental study of the effect of silicon is given in the present paper.—On the thermoelectricity of steels and nickel-steels, by M. G. Belloc. The proportions of nickel in the nickel-steels studied varied from 5 to 35 per cent. The general form of the curve giving the relation between the electromotive force and the temperature for platinum-nickel steel couples is parabolic, the alloy containing 5 per cent. of nickel being exceptional in this respect. The steels containing 5 per cent. and 28 per cent. of nickel at about 400° to 500° C. show brusque variations, indicating molecular transformations. The 28 per cent. nickel steel is remarkable for its high neutral point and the great electromotive force developed.—The action of mixed organo-magnesium compounds upon trioxymethylene, by MM. V. Grignard and L. Tissier. Trioxymethylene reacts slowly at the boiling temperature upon an ethereal solution of the organo-magnesium compounds with the formation of primary alcohols. Numerous alcohols have been thus prepared synthetically, and the method appears to be of wide generality. Thus starting with ethyl bromide, normal propyl alcohol is obtained with a 65 per cent. yield; the reaction also holds in the aromatic series.—The preparation and properties of the imido-dithiocarbonic esters, by M. Marcel Delépine.—On the inversion of saccharose, by M. P. Petit. An attempt at the direct measurement of the heat of inversion of sugar.—On the solubility of calcium phosphate in pure water, by M. A. Rindell.—On the methods for the volumetric estimation of copper, iron, antimony, zinc dust, sulphur in sulphides, and glucose by means of stannous chloride, by M. Fred. Weil.—On the geographical distribution and adaptation to fresh water of some marine forms, by MM. C. Vaney and A. Conte.—On a crustacean commensal with Pagurus, *Gnathomyxis Gerlachii*, a type of a new family of schizopods, by MM. Jules Bonnier and Charles Pérez.—The action of tannins and colouring matters on the activity of yeasts, by M. A. Rosenstiehl.—The mechanism of synthesis of an isomeric leucine, by MM. A. Etard and A. Vila. Leucine derived synthetically from amyl alcohol is different from biological leucine.—On the extraction of boletol, by M. Gabriel Bertrand.—On the fracture of the fore-arm due to a premature explosion in an automobile motor, by M. H. Soret.—The discovery of the mammoth and of a Palæolithic station in Basse-Provence, by M. Repelin.—On the structure of the subterranean hydrographic network in limestone regions, by M. F. Fournier.

DIARY OF SOCIETIES.

THURSDAY, JANUARY 23.

ROYAL SOCIETY, at 4.30.—(1) Mathematical Contributions to the Theory of Evolution. XI. On the Influence of Natural Selection on the Variability and Correlation of Organs; (2) On the Correlation of Intellectual Ability with the Size and Shape of the Head. Preliminary Notice: Prof. K. Pearson, F.R.S.—A Short Description of the Culicidae of India, with Descriptions of New Species of Anopheles: F. V. Theobald.—The Affinity of *Tmesipteris* with the Sphenophyllales: Prof. A. P. W. Thomas.—On the Excretory Organs of Amphioxus: E. S. Goodrich.—On the Mechanism of the so-called "Peripheral Reflex Secretion" of the Pancreas. Preliminary Communication: Dr. W. M. Bayliss and Prof. E. H. Starling, F.R.S.
 ROYAL INSTITUTION, at 3.—Recent Excavations at Delphi and in the Greek Islands: Dr. A. S. Murray.
 SOCIETY OF ARTS, at 4.30.—Bengal: the Land and its People: F. H. Skrine.
 INSTITUTION OF ELECTRICAL ENGINEERS, at 8.—Earth Currents derived from Distributing Systems: E. B. Wedmore.

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FRIDAY, JANUARY 24.

ROYAL INSTITUTION, at 9.—The Discovery of the Future: H. G. Wells
 PHYSICAL SOCIETY, at 5.—The Factors of Heat. Part I.: James Swinburne.—Exhibition of some Twinned Crystals of Selenite: Eustace Large.

SATURDAY, JANUARY 25.

ESSEX FIELD CLUB (at Essex Museum of Natural History, Stratford, Essex), at 5.30.—Note on Occurrence of *Amanita citrina*, Gon. and Rab., in Epping Forest: George Masee.—Local Archæological Exploration: Charles H. Read.

MONDAY, JANUARY 27.

SOCIETY OF ARTS, at 8.—The Purification and Sterilisation of Water: Dr. Samuel Rideal.
 ROYAL GEOGRAPHICAL SOCIETY, at 8.30.—The Maldive Islands: J. Stanley Gardiner.
 INSTITUTE OF ACTUARIES, at 5.30.—The Actuarial Aspects of Recent Legislation, in the United Kingdom and other Countries, on the Subject of Compensation to Workmen for Accidents: John Nicoll.

TUESDAY, JANUARY 28.

ROYAL INSTITUTION, at 3.—The Cell: its Means of Offence and Defence: Dr. Allan Macfadyen.
 SOCIETY OF ARTS, at 4.30.—To the Victoria Nyanza by the Uganda Railway: Commander B. Whitehouse.
 INSTITUTION OF CIVIL ENGINEERS, at 8.—The Sewerage Systems of Sydney, N.S.W., and its Suburbs: J. Davis.—The Bacterial Treatment of Trades Waste: W. Naylor.

WEDNESDAY, JANUARY 29.

SOCIETY OF ARTS, at 8.—Technical Education as applied to Paper Making: Clayton Beadle.

THURSDAY, JANUARY 30.

ROYAL SOCIETY, at 4.30.—*Protalbe Papers*: The Chemical Origins of the Lines in Nova Persei: Sir N. Lockyer, K.C.B., F.R.S.—The Specific Volumes of Oxygen and Nitrogen Vapour at the Boiling Point of Oxygen: Prof. James Dewar, F.R.S.—The Distribution of Magnetism as affected by Induced Currents in an Iron Cylinder when rotated in a Magnetic Field: Prof. Ernest Wilson.
 ROYAL INSTITUTION, at 3.—Recent Excavations at Delphi and in the Greek Islands: Dr. A. S. Murray.

FRIDAY, JANUARY 31.

ROYAL INSTITUTION, at 9.—The Ions of Electrolysis: Prof. A. Crum Brown, F.R.S.
 INSTITUTION OF CIVIL ENGINEERS, at 8.—The Quay-Walls of Keysham Harbour: J. C. Collett and W. H. C. Clay.

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