

Urban. The crude earths from gadolinite are converted into ethyl sulphates. After ten crystallisations the mother liquors contain only the three elements yttrium, erbium and ytterbium, with perhaps a trace of thorium. These were further separated by the fractional decomposition of the nitrates by heat, which, in the absence of earths of the gadolinium group, gives a very satisfactory separation.—On an arsenide and chloro-arsenide of tungsten, by M. Ed. Defacqz. The interaction between hydrogen arsenide and tungsten hexachloride is analogous to that with the corresponding phosphorus compound, two compounds of the composition WAs_2 and W_2AsCl_6 being isolated.—On nitrofurfuran, by M. R. Marquis. By allowing anhydrous nitric acid and furfuran in acetic anhydride solution to react at $-5^\circ C.$, a nitrofurfuran can be obtained. The exact position of the nitro-group is not yet determined.—The absorption spectra of the indophenols, by M. Paul Lemoult.—On some new organometallic compounds of mercury, by MM. Auguste Lumière, Louis Lumière, and Chevrolier. When alkali phenol disulphonates react with mercuric oxide, compounds are formed of great solubility, and presenting some peculiar reactions, not being precipitated by soda, hydrochloric acid, or ammonium sulphide. Their taste is purely saline, and not metallic as is usual with mercury salts. The solutions, however, possess great antiseptic power.—On the mechanism of diastatic reactions, by M. M. Hanriot. By studies on the ferment lipase it is shown that the ferment, when attenuated by a chemical action, may regain its original activity, and also that the action of lipase upon acids and ethers appears to be a chemical combination governed by the ordinary laws of dissociation.—On the plurality of the chlorophyllines and on the metachlorophyllines, by M. M. Tsvett.—On a pseudo-agaric acid, by MM. Adrian and Trillat. The body extracted from agaric by alcohol does not appear to be a true acid, and when pure is without special physiological properties.—Transformation of creatine into creatinine by a soluble dehydrating ferment in the organism, by M. E. Gérard.—Modes of formation and preparation of propylbenzene, by M. F. Bodroux. Normal propylbenzene is formed along with other products by the interaction of benzene, trimethylene bromide and aluminium chloride.—Filtration of air by the soil, by M. Auguste Gérardin.—On the rôle of the chlorophyllian function in the evolution of terpenic compounds, by M. Eug. Charabot. Any influences which increase the vigour of the chlorophyll function in plants also appears to favour the production of the ethers of terpene alcohols.—On the chemical composition of the coffee from Grande Comore, by M. Gabriel Bertrand.—Action of mucus upon the organism, by M. M. Charrin and Moussu. Fresh mucus possesses poisonous properties when injected into the blood.—Radiopelvimetry and radiopelvimetry at long range, by M. Henri Varnier.—The sponges of the Belgian Antarctic expedition, and the bipolarity of the fauna, by M. E. Topsent.—Origin of the pigment in Tunicates. The transmission of the maternal pigment to the embryo, by M. Antoine Pizon.—A new theory of chromatic adaptation, by M. Georges Bohn.—Reserches on the structure of some of the lower fungi, by M. Guilliermond.—Apparent symmetry in crystals, by M. Frédéric Wallerant.—On the origin of the gold in Madagascar, by M. A. Lacroix.—On the age of the eruptive rocks of Cape Aggie, by M. Leon Bertrand.—The dômes of Saint Cyprien (Dordogne), Sauveterre and Fumel (Lot-et-Garonne), by M. Ph. Glangeaud.

DIARY OF SOCIETIES.

MONDAY, FEBRUARY 4.

VICTORIA INSTITUTE, at 4.30.—Ancient Script in Australia: E. J. Statham.

TUESDAY, FEBRUARY 5.

ROYAL INSTITUTION, at 3.—Practical Mechanics: Prof. J. A. Ewing. ZOOLOGICAL SOCIETY, at 8.30.—On the Mammals of the Balearic Islands: Oldfield Thomas.—On the Structure of the Horny Excrescence known as the "Bonnet" of the Southern Right Whale (*Balaena australis*): Dr. W. G. Ridewood.—A List of the Batrachians and Reptiles obtained by Dr. Donaldson Smith in Somaliland in 1899: G. A. Boulenger, F.R.S.

INSTITUTION OF CIVIL ENGINEERS, at 8.—The Present Condition and Prospects of the Panama Canal Works: J. T. Ford.

WEDNESDAY, FEBRUARY 6.

ROYAL INSTITUTION, at 3.—Government and People of China: Prof. R. N. Douglas.

GEOLOGICAL SOCIETY, at 8.—On the Origin of the Dunmail Raise (Lake District): D. Oldham.—On the Structure and Affinities of the Rhætic Plant *Naiaidita*: Miss Igerna B. J. Sollas.

NO. 1631, VOL. 63]

THURSDAY, FEBRUARY 7.

ROYAL SOCIETY, at 4.30.—*Probable papers*: The Boiling Point of Liquid Hydrogen, determined by Hydrogen and Helium Gas Thermometers: Prof. Dewar, F.R.S.—On the Brightness of the Corona of January 22, 1898. Preliminary Note: Prof. H. H. Turner, F.R.S.—Preliminary Determination of the Wave Lengths of the Hydrogen Lines, derived from Photographs taken at Ovar at the Eclipse of the Sun, 1900, May 28: F. W. Dyson.—Investigations on the Abnormal Outgrowths or Intumescences on *Hibiscus vitifolius*, Linn.: a Study in Experimental Plant Pathology: Miss E. Dale.—On the Proteid Reaction of Adamkiewicz, with Contributions to the Chemistry of Glyoxylic Acid: F. G. Hopkins and S. W. Cole.

CHEMICAL SOCIETY, at 8.—Ballot for the Election of Fellows.—The Action of Hydrogen Bromide on Carbohydrates: H. J. H. Fenton and Mildred Gostling.—Note on a Method of comparing the Affinity-Values of Acids: H. J. H. Fenton and H. O. Jones.—Organic Derivatives of Phosphoryl Chloride, and the Space Configuration of the Valencies of Phosphorus: R. M. Caven.—(1) Synthetical Work with Sodamide Derivatives; (2) Note on Two Molecular Compounds of Acetamide; (3) Diacetamide, a New Method of Preparation: Dr. A. W. Titherley.

RÖNTGEN SOCIETY, at 8.—Experiences of X-Ray Work during the Siege of Ladysmith; Lieut. F. Bruce.

FRIDAY, FEBRUARY 8.

ROYAL INSTITUTION, at 9.—History and Progress of Aërial Locomotion: Prof. G. H. Bryan, F.R.S.

ROYAL ASTRONOMICAL SOCIETY, at 3.—Annual General Meeting. GEOLOGISTS' ASSOCIATION, at 8.—Annual General Meeting.—Twelve Years of London Geology: The President, W. Whitaker, F.R.S.

INSTITUTION OF CIVIL ENGINEERS, at 8.—Mr. Wimperis' paper on Cycle Resistance will be submitted for discussion.

INSTITUTION OF MECHANICAL ENGINEERS, at 8.—Power-Gas and Large Gas-Engines for Central Stations: H. A. Humphrey.

ANATOMICAL SOCIETY, at 4.30.—The Origin of the Vertebrate Ear and Eighth Pair of Cranial Nerves: W. H. Gaskell, F.R.S.—A Critical Review of Recent Literature on Fossil Anthropoids: W. L. H. Duckworth.

CONTENTS.

PAGE

The Science of Spectrum Analysis. By Prof. Arthur Schuster, F.R.S.	317
Life and Work of C. Gerhardt. By W. R.	318
Monism for the Multitude	320
Schmeil's Text-Book of Zoology. By R. L.	321
Our Book Shelf:—	
Fry and Fry: "The Mycetozoa and some Questions which they Suggest"	323
Waddell: "A School Chemistry"	323
Kostersitzl: "Die Photographie im Dienste der Himmelskunde"	324
Van Bemmelen: "Die Säkular-Verlegung der Magnetischen Axe der Erde"	324
Hawkins: "The Theory of Commutation"	324
Meyer and Parkinson: "Album of Papua. Types II. North New Guinea, Bismarck Archipelago, German Salomon Islands"	324
Ryland: "The Story of Thought and Feeling."—H. W. B.	325
Ball: "A Primer of Astronomy"	325
Burgess: "Hand in Hand with Dame Nature"	325
Letters to the Editor:	
Eclipse Photography.—Prof. Francis E. Nipher	325
The Jamaican Species of <i>Peripatus</i> .—Prof. T. D. A. Cockerell	325
<i>Dasypeltis</i> and the Egested Egg-shell. (<i>Illustrated.</i>) By Prof. G. B. Howes, F.R.S.	326
The Liverpool Museum and Progress	327
Z. T. Gramme	327
Notes	328
Our Astronomical Column:—	
Astronomical Occurrences in February	333
Brooks' Minor Planets	333
Brorsen's Comet	333
Ephemeris for Observations of Eros	333
Elliptic Elements of Comet 1900 c	333
Refraction within Telescope Tube. (<i>With Diagrams.</i>) By James Renton	334
Sugar-cane Experiments	335
Technical Education in Manchester. (<i>With Diagrams.</i>) By A. T. Simmons	336
Methods of Formation of Hail. By Prof. Cleveland Abbe	337
University and Educational Intelligence	338
Scientific Serials	338
Societies and Academies	339
Diary of Societies	340