

January 1, by M. Th. Moureaux. The absolute values of the magnetic elements is given for four stations, Parc Saint-Maur, Nice, Perpignan and Val Joyeux. The removal of the magnetic instruments to this last station from Parc Saint-Maur was rendered necessary during the year by the increasing disturbances caused by the development of the electrical tramway system of Paris.—On a new phosphide of tungsten, by M. Ed. Defacqz. All attempts to prepare the tungsten phosphide, WP, at the temperature of the electric furnace were unsuccessful, owing to the fact that at the temperature of boiling copper phosphide the tungsten phosphide is dissociated. By working at the highest attainable temperature of a wind furnace, however, in presence of a large excess of copper phosphide, a well crystallised phosphide was obtained having the composition WP. This forms prismatic crystals of a grey metallic lustre, density 8.5, not attacked by air at the ordinary temperature, but converted into tungstic acid at a red heat.—On some properties of sodium peroxide, by M. George F. Jaubert. Sodium peroxide is commonly described as a white substance which deliquesces slowly when exposed to the air. The author now finds that the colour of this substance when prepared in a perfectly pure state is yellow, and further that it does not liquefy when exposed to the air.—Composition of the hydride and nitride of thorium, by MM. C. Matignon and M. Delépine. At a dull red heat metallic thorium burns in a current of hydrogen forming the hydride ThH. With nitrogen, if the metal be heated somewhat more strongly, the nitride Th₃N₄ is formed, which is rapidly decomposed by hot water with the formation of thoria and ammonia.—Some new reactions of the organo-metallic derivatives, by M. E. E. Blaise. A description of a new general method for the preparation of ketones and ketonic acids. The reagent used is the alkyl magnesium iodide obtained by the action of magnesium upon an alkyl iodide, and this is allowed to react with either a nitrile or an isocyanic ester. Thus in this way the author has obtained propionacetic ester from cyanacetic ester, diethyl ketone from cyanogen, and substituted anilides from phenyl isocyanate.—Action of methyl-acetylacetone and ethyl-acetylacetone on the diazo chlorides, by M. G. Favrel. The diazo-chlorides react with methyl- or ethyl-acetylacetone with the elimination of a molecule of acetic acid and formation of a hydrazone. This reaction resembles that of the cyanacetic esters containing substituted acid radicles, and also the reaction between the alkyl-acetylacetic esters and diazobenzene chloride.—On the embryology of *Taenia serrata*, by M. G. Saint-Remy. The author gives reasons for believing that the description given by van Beneden of the young egg, not segmented, is not quite exact, and that this description belongs in reality to a slightly more advanced stage.—On the discovery of an origin of the Swiss Pre-alps, by M. Maurice Lugeon.

DIARY OF SOCIETIES.

THURSDAY, JANUARY 17.

ROYAL SOCIETY, at 4.30.—Total Eclipse of the Sun, January 22, 1898. Observations at Vizardrug. Part IV. The Prismatic Cameras: Sir N. Lockyer, K.C.B., F.R.S.—Wave-length Determinations and General Results obtained from a Detailed Examination of Spectra photographed at the Solar Eclipse of January 22, 1898: J. Evershed.—The Thermo-Chemistry of the Alloys of Copper and Zinc: T. J. Baker.
 ROYAL INSTITUTION, at 3.—The Origin of Vertebrate Animals: Dr. Arthur Willey.
 SOCIETY OF ARTS (Indian Section), at 4.30.—Metalliferous Mining in India: Dr. John W. Evans.
 LINNEAN SOCIETY, at 8.—On the Affinities of *Aetiropus melanoleucus*, Prof. E. Ray Lankester, F.R.S., with a Description of the Skull and some of the Limb-bones: R. Lydekker, F.R.S.—On the Natural History and Artificial Cultivation of the Pearl Oyster: Dr. H. Lyster Jameson.
 CHEMICAL SOCIETY, at 8.—The Preparation of Esters from other Esters of the same Acid: I. S. Patterson and Cyril Dickinson.—Teconin: a Colouring Matter derived from *Bignonia tocoma*: T. H. Lee.—A New Method for the Measurement of Ionic Velocities in Aqueous Solution: B. D. Steele.—Metal-Ammonia Compounds in Aqueous Solution. II. The Absorptive Powers of Dilute Solutions of Salts of the Alkali Metals: H. M. Dawson and J. McCrae.

FRIDAY, JANUARY 18.

ROYAL INSTITUTION, at 9.—Gases at the Beginning and End of the Century: Prof. J. Dewar, F.R.S.
 INSTITUTION OF MECHANICAL ENGINEERS, at 8.—Annual General Meeting.—Possible discussion upon Mr. H. A. Humphrey's paper on Power Gas and Large Gas-Engines for Central Stations.

MONDAY, JANUARY 21.

VICTORIA INSTITUTE, at 4.30.—Evolution: Rev. G. F. Whidborne.

TUESDAY, JANUARY 22.

ROYAL INSTITUTION, at 3.—Practical Mechanics: Prof. J. A. Ewing, F.R.S.
 ANTHROPOLOGICAL INSTITUTE, at 8.30.—On Malay Metal-working (Illustrated by Lantern Slides and Experiments): W. Rosenhain.—Slides illustrative of the damage to Stonehenge will also be shown.
 INSTITUTION OF CIVIL ENGINEERS, at 8.—The Present Condition and Prospects of the Panama Canal Works: J. T. Ford.
 MINERALOGICAL SOCIETY, at 8.—Note on an Occurrence of Mirabilite: Dr. Trechmann.—On a Question relative to Extinction-Angles in Rock-Slices: Mr. Harker.—On the Arrangement of the Chemical Atoms in Calc Spar and in some other Crystals: Mr. Barlow.
 ROYAL PHOTOGRAPHIC SOCIETY, at 8.—Imitative versus Creative (a Comparison): W. Edwin Tindall.

WEDNESDAY, JANUARY 23.

GEOLOGICAL SOCIETY, at 8.—The Glacial Geology of Victoria, Australia: Prof. J. W. Gregory.—The Origin of the Dunmail Raise (Lake District): R. D. Oldham.

THURSDAY, JANUARY 24.

ROYAL SOCIETY, at 4.30.—Probable papers: The Boiling Point of Liquid Hydrogen, determined by Hydrogen and Helium Gas Thermometers: Prof. J. Dewar, F.R.S.—Investigations on the Abnormal Outgrowths or Intumescences on *Hibiscus vitifolius*, Linn.: a Study in Experimental Plant Pathology: Miss Elizabeth Dale.—On the Proteid Reaction of Adamkiewicz, with Contributions to the Chemistry of Glyoxylic Acid: F. Gowland Hopkins and S. W. Cole.
 ROYAL INSTITUTION, at 3.—Origin of Vertebrate Animals: Dr. Arthur Willey.
 INSTITUTION OF ELECTRICAL ENGINEERS, at 8.—Adjourned Discussion: Capacity in Alternate Current Working: W. M. Mordey.

FRIDAY, JANUARY 25.

PHYSICAL SOCIETY, at 5.—The New Physical Laboratories of the Royal College of Science: Prof. A. W. Rüchker, Sec. R.S.—Note on an Absolute Method for determining the Hygrometric State of the Atmosphere: E. B. H. Wade.—Exhibition of an Experiment on the Migration of the Ions: S. W. J. Smith.
 INSTITUTION OF CIVIL ENGINEERS, at 8.—Sewage Treatment: C. Johnston.

SATURDAY, JANUARY 26.

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

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