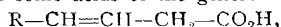


crystals, melting at 56° C. and boiling at 189°·5 C. under 774 mm. Its vapour density is normal. The heat of formation has also been determined.—The essentially chemical causes of the allotropic transformation of white phosphorus dissolved in essence of turpentine: Albert **Colson**.—An isomeric modification of hydrated hypovanadic acid: Gustave **Gain**. The acid  $V_2O_5 \cdot 2H_2O$  exists in two forms, one green and the other rose colour. The change from one of these isomers to the other is accompanied by a thermal change, and this has been measured in the calorimeter.—Lutecium and neoytterbium: G. **Urbain**. The fact that Marignac's ytterbium can be separated into two elements differing in atomic weight by more than three units was briefly described by the author three months ago. The present communication contains fuller details of the methods and results. These results have been confirmed by Auer von Welsbach, who has described the two elements thus separated under the names of aldebaranium and cassiopeium. The former of these is identical with lutecium, and the latter with neoytterbium.—The action of sulphosalicylic acid upon borax: L. **Barthe**.—The action of nascent hypiodous acid (iodine and sodium carbonate) upon some acids of the general formula



R being the phenyl group more or less substituted: J. **Bougault**. The product of this action is an acid of the general formula  $R-CO-CH=CH-CO_2H$ .—Antiamylase serum: C. **Gessard** and J. **Wolff**. Quantitative studies on an enzyme preventing the action of malt extract upon starch.—The action of amylase of the pancreatic juice and its stimulation by the gastric juice: H. **Bierry**.—Note on the existence of products of cellular degeneration recalling Negri's bodies: Y. **Manouélian**.—The measurement of the ventricular wave in man: Gabriel **Arthaud**.—The fixation, multiplication, and mode of attack of pathogenic trypanosomes in the proboscis of the tsetse fly: E. **Roubaud**.—The genus *Doliocystis*: L. **Brasil**.—Stratigraphical researches in eastern Morocco: Louis **Gentil**.—Primary strata of Morvan and the Loire: Albert **Michel-Lévy**.—The extension of the Oligocene depressions in a part of the central *massif*, and their rôle from the hydrological point of view: Ph. **Glangeaud**.—New researches on the rare gases of thermal springs. Yields of gas in certain cases: Charles **Moureu** and Robert **Biquard**. The gases from nine springs have been examined. The proportions of the rare gases, taken together, vary from 1·24 per cent. to 6·39 per cent., the helium from 0·097 per cent. to 5·34 per cent. The total quantity of helium thus obtainable is very large, a spring at Bourbon-Nancy giving 10,000 litres per annum. The helium was separated by means of charcoal at the temperature of liquid air boiling under reduced pressure, and contained only a trace of neon as impurity.

## DIARY OF SOCIETIES.

THURSDAY, MARCH 5.

ROYAL SOCIETY, at 4.30.—On the Atomic Weight of Radium: Dr. T. E. Thorpe, C.B., F.R.S.—On the Electrical Resistance of Moving Matter: Prof. F. T. Trouton, F.R.S., and A. O. Rankine.—On the Nature of the Streamers in the Electric Spark: Dr. S. R. Milner.—The Relation between Wind Velocity at 1000 Metres Altitude and the Surface Pressure Distribution: E. Gold.

ROYAL INSTITUTION, at 3.—Early British History and Epigraphy: Sir John Rhys.

CHEMICAL SOCIETY, at 8.30.—The Solubility of Iodine in Water: H. Hartley and N. P. Campbell.—Traces of a New Tin-group Element in Thorianite: Miss C. de B. Evans.

INSTITUTION OF ELECTRICAL ENGINEERS, at 8.—Fuse Phenomena: Prof. A. Schwartz and W. H. N. James.

LINNEAN SOCIETY, at 8.—On the Morphology of *Stigmaria* in Comparison with Recent Lycopodiaceæ: Prof. F. E. Weiss.—On *Trichonisoides albidus* and *T. sarzi*: Alexander Patience.—*Exhibits*: Fruit Destroying Flies: W. W. Froggatt.—Mimicry in the Common Sole: Dr. A. T. Masterman.

FRIDAY, MARCH 6.

ROYAL INSTITUTION, at 9.—The Figure and Constitution of the Earth: Prof. Love.

INSTITUTION OF CIVIL ENGINEERS, at 8.—Surveying on Thunder Bay Branch of the Grand Trunk Pacific Railway, Canada: R. V. Morris.—British Practice in Railway Surveying: W. Graham.—Railway Surveying in Great Britain: W. C. Crawford.

GEOLOGISTS' ASSOCIATION, at 8.—The After-history of the West Indian Eruptions of 1902: Dr. Tempest Anderson.

SATURDAY, MARCH 7.

ROYAL INSTITUTION, at 3.—Electric Discharges through Gases: Prof. J. J. Thomson, F.R.S.

MONDAY, MARCH 9

ROYAL SOCIETY OF ARTS, at 8.—Fuel and its Future: Prof. Vivian B. Lewes.

ROYAL GEOGRAPHICAL SOCIETY, at 8.30.—Exploration in Southern Nigeria: Lieut. E. A. Steel.

TUESDAY, MARCH 10.

ROYAL INSTITUTION, at 3.—Membranes: Their Structure, Uses and Products: Prof. W. Stirling.

ROYAL ANTHROPOLOGICAL INSTITUTE, at 8.15.—The Origin of the Crescent as a Muhammadan Badge: Prof. W. Ridgeway.—Some Prehistoric Antiquities in Central France: A. L. Lewis.

INSTITUTION OF CIVIL ENGINEERS, at 8.—Further discussion: The New York Rapid-transit Subway: W. B. Parsons.

WEDNESDAY, MARCH 11.

ROYAL SOCIETY OF ARTS, at 8.—The Use of Reinforced Concrete in Engineering and Architectural Construction in America: Ernest R. Matthews.

ROYAL METEOROLOGICAL SOCIETY, at 7.30.—Lecture on the Dawn of Meteorology: Dr. G. Hellmann.

THURSDAY, MARCH 12.

ROYAL SOCIETY, at 4.30.—*Probable Papers*:—Description of the Brain of Mr. Charles Babbage, F.R.S.: Sir Victor Horsley, F.R.S.—The Origin and Destiny of Cholesterol in the Animal Organism. Part II., The Excretion of Cholesterol by the Dog: C. Doré and J. A. Gardner.—On Reciprocal Innervation in Vasomotor Reflexes and the Action of Strychnine and of Chloroform thereon: Dr. W. M. Bayliss, F.R.S.—Bacteria as Agents in the Oxidation of Amorphous Carbon: Prof. M. C. Potter.

ROYAL INSTITUTION, at 3.—Early British History and Epigraphy: Sir John Rhys.

ROYAL SOCIETY OF ARTS, at 4.30.—Progress in the Native States of India during the past Forty Years: Sir David W. K. Barr, K.C.S.I.

MATHEMATICAL SOCIETY, at 5.30.—On the Projective Geometry of some Covariants of a Binary Quintic: Prof. E. B. Elliott.—On the Inequalities connecting the Double and Repeated Upper and Lower Integrals of a Function of Two Variables: Dr. W. H. Young.—On the Operational Expression of Taylor's Theorem: W. F. Sheppard.—A Proof of a Theorem of Fermat's: Dr. H. A. P. de S. Pittard.

INSTITUTION OF ELECTRICAL ENGINEERS, at 8.—America Re-visited, 1907: Sir W. H. Preece, K.C.B., F.R.S.

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