

absolute alcohol, the metal dissolves, possibly as an acid hyposulphite. This solution, left in a vacuum, deposits magnesium hyposulphite.—On acetyl-lactic acid: V. Auger. Previous accounts of this substance being contradictory, the author has attempted to procure it in a pure state. It can be obtained either by the action of acetyl chloride on calcium lactate or on lactic acid, or by using acetic anhydride in the place of the acetyl chloride. The substance was obtained in a crystalline form in all three preparations, and its physical and chemical properties are given.—On the compounds of aluminium chloride with hydrocarbons and hydrogen chloride: G. Gustavson. By the interaction of benzene, isopropyl chloride, and aluminium chloride, the author has isolated a definite compound, the action of which, in the Friedel and Crafts reaction, may be compared to that of a ferment. This substance can unite both with hydrocarbons and hydrogen chloride.—On the hydrides of phenanthrene: Pierre Breteau. Previous work on the hydrogen addition compounds of phenanthrene has been carried out with the aid of hydriodic acid. The author has applied the Sabatier and Senderens reaction with reduced nickel, and in the present communication gives the results obtained with the hexahydride and octahydride of phenanthrene.—On the retrogradation of artificial starch: E. Roux.—The influence of the ethylene function in an active molecule: J. Minguin. With the view of throwing further light on the effect of the ethylene linkage on the rotation, the author has prepared amyl succinate, maleate, and fumarate, as well as the corresponding esters of bornyl alcohol, and has measured the rotatory power.—The constitution of the ligamentary ridge and the evolution of the ligament in existing Acephala analogous to the Rudistæ: R. Anthony.—Diagrams showing the ligament in section are given for *Unio Pictorum* and *Aetheria Caillaudi* at two ages.—Heterotypical mitosis in the Ascomycetes: René Maire.—On the possible rôle of slipping in metallogeny: L. De Launay. An application of the idea of *charriage* to a study of the continuity of metallic lodes.—On the existence of schists with graptolites at Hacı-El-Khenig, Central Sahara: G. B. M. Flamand. Specimens of schists bearing fossils, collected by Captain Cotteneat, prove to be characteristically Silurian, and form the first definite proof of this system in the Central Sahara.—On the presence of the Middle and Upper Carboniferous in the Sahara: Emile Haug.—On an extraordinary halo observed at Paris: Louis Besson. This halo, which was observed at the Montsouris Observatory on March 26, besides the ordinary circle and parhelia of 22°, presented two abnormal coloured arcs, the angular measurements of which are given.

DIARY OF SOCIETIES.

THURSDAY, APRIL 13.

ROYAL SOCIETY, at 4.30.—On a New Type of Electric Furnace; with a Redetermination of the Melting Point of Platinum: Dr. J. A. Harker.—On Colour Vision by Very Weak Light: Dr. G. J. Burch, F.R.S.—(1) The Improved Electric Micrometer; (2) The Amplitude of the Minimum Audible Impulsive Sound: Dr. P. E. Shaw.—The Refractive Indices of Sulphuric Acid: Dr. V. H. Veley, F.R.S., and J. J. Manley.—On the Intensity and Direction of the Force of Gravity in India: Lieut.-Colonel S. G. Burrard, F.R.S.—A Quantitative Study of Carbon Dioxide Assimilation and Leaf-Temperature in Natural Illumination: F. F. Blackman and Miss G. Matthaei.

ROYAL INSTITUTION, at 5.—Synthetic Chemistry: Prof. R. Meldola, F.R.S.

INSTITUTION OF ELECTRICAL ENGINEERS, at 8.—The Alternating Current Series Motor: F. Creedy.—Discussion of Mr. Bion J. Arnold's address to the joint meeting at St. Louis.

INSTITUTION OF MINING AND METALLURGY, at 8.—The Kedabeg Copper Mines: Gustav Köller.—Refining Gold Bullion and Cyanide Precipitates with Oxygen Gas: T. Kirke Rose.—Wool Gas for Power Purposes and Gas Generator: G. M. Douglas.—Notes on the Prestea District, Gold Coast Colony: P. Poore.—Notes on the New Dharwar Gold Field of India: R. O. Ahlers.—The Cause of Border Segregation in some Igneous Magmas: J. Park.

MATHEMATICAL SOCIETY, at 5.30.—On Irreducible Jacobians of Degree Six: P. W. Wood.—On Fermat's Numbers and the Converse of Fermat's Theorem: A. E. Western.—On the Strains that accompany Bending: Prof. A. E. H. Love.—Ordinary Inner Limiting Sets in the Plane or Higher Space: Dr. W. H. Young.

FRIDAY, APRIL 14.

ROYAL INSTITUTION, at 9.—The Law of Pressure of Gases below Atmosphere: Lord Rayleigh.

PHYSICAL SOCIETY, at 8.—On Ellipsoidal Lenses: R. J. Sower.—(1) The Determination of the Moment of Inertia of the Magnets used in the

Measurement of the Horizontal Component of the Earth's Field: (2) Exhibition of a Series of Lecture Experiments illustrating the Properties of the Gaseous Ions produced by Radium and other Sources: Dr. W. Watson, F.R.S.

ROYAL ASTRONOMICAL SOCIETY, at 5.—Value of Meteoric Radiants Based on Three Paths: W. F. Denning.—Determination of Longitude on the Planet Jupiter: G. W. Hough.—(1) Revised Elements of UY Cygni; (2) Revised Elements of Y Lyræ: A. Stanley Williams.—Further Note on Instrumental Errors affecting Observations of the Moon; in reply to Mr. Cowell's paper of June, 1904: H. H. Turner.—Reply to Prof. Turner's paper: P. H. Cowell.—Note on the Point Distributions on a Sphere; with Remarks on the Determination of the Apex of the Sun's Motion: H. C. Plummer.

MALACOLOGICAL SOCIETY, at 8.—Anatomical and Systematic Notes on Porcacia, Trigonophorus, Corilla, Thersites, and Chloritis: Henry A. Pilsbry.—Some Account of the Anatomy of *Cassidaria rugosa*, L.: Alexander Reynell.—Notes on a small Collection of Shells from the Victoria Falls, Zambesi River: H. B. Preston.—Descriptions of Six New Species of Land Shells from South Africa: H. Burnup.

INSTITUTION OF MECHANICAL ENGINEERS, at 8.—President's Address. Conclusion of discussion on Steam-engine Research Report and Prof. Capper's reply.

SATURDAY, APRIL 15.

ROYAL INSTITUTION, at 3.—Some Controverted Questions of Optics: Lord Rayleigh.

MONDAY, APRIL 17.

INSTITUTE OF ACTUARIES, at 5.—On the Importance and Practicability of a Standard Classification of Impaired Lives: Dr. S. W. Carruthers.—Social Conditions as affecting Widows' and Orphans' Pension Funds: S. J. H. W. Allin.

TUESDAY, APRIL 18.

ROYAL STATISTICAL SOCIETY, at 5.

ZOOLOGICAL SOCIETY, at 8.30.

INSTITUTION OF CIVIL ENGINEERS, at 8.—Annual General Meeting.

WEDNESDAY, APRIL 19.

GEOLOGICAL SOCIETY, at 8.—The Blea Wyke Rocks and the Dogger in North-East Yorkshire: R. H. Rastall.—Notes on the Geological Aspect of Some of the North-Eastern Territories of the Congo Independent State: G. F. J. Preumont; with Petrographical Notes: J. A. Howe.

ROYAL MICROSCOPICAL SOCIETY, at 8.—On the Application of the Undulatory Theory to Optical Problems: A. E. Conrady.

ROYAL METEOROLOGICAL SOCIETY, at 7.30.—An Account of the Observations at Crinan in 1904, and Description of a new Meteorograph for use with Kites: W. H. Dines.—Rate of Fall of Rain at Seahwaite: Dr. H. R. Mill.

CHEMICAL SOCIETY, at 5.30.—Complex Nitrites of Bismuth: W. C. Bail.

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