in the condenser-spark, in the ordinary spark discharge without condenser, in the electric arc, and in very hot flames.—Application of Trouton's law to the determination of molecular rise of boiling point of solutions: D. E. **Tsakalotos.**—Explosive mixtures of air and ether: J. **Meunier.** The lower limit of inflammability is about 58 to 60 milligrams of ether per litre of air, and the upper limit is about 200 milligrams. From 100 to 175 milligrams per litre it is more or less explosive.—The removal of water from alcohol by the catalytic action of red phosphorus and the phosphates: J. B. **Senderens.**—The action of magnesium amalgam on the aldehydes: André **Kling** and Paul **Roy.** Certain compounds such as polymerised formaldehyde (trioxymethylene) and chloral do not react, but others, *e.g.* acetic and benzoic aldehydes, react readily.—The double compounds of aluminium sulphide with the protosulphides of chromium, nickel, cobalt, and magnesium: Marcel **Houdard.** Al_2S_3MnS, Al_2S_3FeS, and Al_2S_3CrS were isolated and analysed. They are considered to be similar to spinels in crystalline form and structure.—The dissociation of silicates of lithium: Edgard **Derome.**—Study of the calcium salt of paraoxybenzoic acid: Œchsner **de Coninck.**—The products formed by the condensation of ethyl oxalate with dimethylaniline in presence of aluminium chloride: A. **Guyot.**—Synthesis of ketones of the hexahydroaromatic series: G. **Darzens** (*cf. Comptes rendus*, vol. cxlii., p. 714).—Metallic thiosulphocarbamates: preparation of sulphocarbimides of the fatty series: Marcel **Delépine.**—The respiration of the vegetative aërial organs of vascular plants: G. **Nicolas.** The author summarises his results as follows:—(1) the different aërial organs of vascular plants have each their own intensity and special respiratory quotient; (2) the stalk and the petiole have generally intensities and respiratory quotients similar to each other; (3) of all aërial organs, those which are essentially charged with the assimilatory function are those which have the greatest respiratory intensity and the lowest respiratory quotient.—Properties of the pigments of batrachians: A. **Magnan.** The properties, including solubility, of green, yellow, brownish-yellow, red, and black pigments are described.—The reaction of the tissue of the iris to light: A. **Nepveu.** The iris is irritable to light in cephalopods, fish, and birds, but not in mammals.

DIARY OF SOCIETIES.

THURSDAY, MAY 30.

ROYAL SOCIETY, at 4.30.—The Solubility of Air in Fats, and its Relation to Caisson Disease: Dr. H. M. Vernon.—Mitosis in Proliferating Epithelium: Dr. J. O. Wakelin Barratt.—An Experimental Inquiry into the Nature of the Substances in Serum which Influence Phagocytosis: Dr. G. Dean.—The Correlation of Ovarian and Uterine Functions: E. S. Carmichael and Dr. F. H. A. Marshall.—Report of Private Expedition to Philippeville, Algeria, to view the Total Solar Eclipse, August 30, 1905: Dr. T. C. Porter and W. P. Colfox.

ROYAL INSTITUTION, at 3.—Chemical Progress—Work of Berthelot, Mendeléeff, and Moissan: Sir James Dewar, F.R.S.

SOCIETY OF ARTS, at 4.30.—Irrigation Colonies in India: Laurence Robertson.

FRIDAY, MAY 31.

ROYAL INSTITUTION, at 9.—Recent Journey Across Africa: A. Henry Savage Landor.

SATURDAY, JUNE 1.

ROYAL INSTITUTION, at 3.—The Contest between Guns and Armour: Sir William H. White, K.C.B., F.R.S.

MONDAY, JUNE 3.

SOCIETY OF CHEMICAL INDUSTRY, at 8.—The Nature of, and Changes involved in the Production and Setting of Plaster of Paris: W. A. Davis.—The Analysis of White Lead: W. A. Davis and C. A. Klein.—A Calorimeter for Volatile Liquid Fuels, specially adapted for Petrol: W. Hansen Rawles.—Influence of Temperature of Dyeing on Resolution: W. P. Dreaper and A. Wilson.—The Loss of Nitre in the Chamber Process, Part iii.: J. K. H. Inglis.

INSTITUTE OF ACTUARIES, at 5.—Annual General Meeting.

TUESDAY, JUNE 4.

ROYAL INSTITUTION, at 3.—Malaria, Sleeping Sickness, Tick Fever, and Allied Diseases: Prof. G. F. Nuttall, F.R.S.

WEDNESDAY, JUNE 5.

ENTOMOLOGICAL SOCIETY, at 8.—Bionomic Notes on some South African Insects: Dr. G. B. Longstaff and Dr. F. A. Dixey.

GEOLOGICAL SOCIETY, at 8.—Brachiopod Morphology: Cincta, Eudesia, and the Development of Ribs: S. S. Buckman.—A Marine Fauna in the Basement-beds of the Bristol Coalfield: Herbert Bolton.

SOCIETY OF PUBLIC ANALYSTS, at 8.—Note on Horse Fat and "Animal" Oil: H. Dunlop.—A Method for Determining Caustic Lime in Fertilisers: J. Hendrick.—The Rapid Estimation of Total Solids in Milk: C. Revis.—The Reducing Action of Hydrogen, iii., The Reduction of Molybdic and Vanadic Acids: A. C. Chapman and H. D. Law.

THURSDAY, JUNE 6.

ROYAL SOCIETY, at 4.30.—*Probable Papers*: On the Two Modes of Condensation of Water Vapour on Glass Surfaces, and their Analogy with James Thomson's Curve of Transition from Gas to Liquid: Prof. F. T. Trouton, F.R.S.—The Mechanical Effect of Canal Rays: A. A. Campbell Swinton.—The Distribution of the Blue and Violet Light in the Corona on August 30, 1905, as derived from Photographs taken at Kalaa-es-Senam, Tunis: Prof. L. Becker.—On the Velocity of Rotation of the Electric Discharge in Gases at Low Pressures in a Radial Magnetic Field: Prof. H. A. Wilson, F.R.S., and G. H. Martyn.—The Osmotic Pressure of Compressible Solutions of any Degree of Concentration: A. W. Porter.

LINNEAN SOCIETY, at 8.—Contributions to our Knowledge of the New Zealand Holothurians: Prof. A. Dendy and E. Hindle.—Observations on Australasian Polyclads: Prof. W. A. Haswell.—Report on the Marine Fishes collected by Mr. J. Stanley Gardiner in the Indian Ocean: C. Tate Regan.—The Lithothamnia of the *Sealark* Expedition: M. Foslie. Notes sur les Ixodidæ recueillis dans les îles de l'Océan Indien, par M. J. Stanley Gardiner: Prof. L. G. Neumann.—*Exhibitions: Orobanche Ritro*, and some New Varieties of Plants from the Channe Islands: G. Claridge Druce.

ROYAL INSTITUTION, at 3.—Chemical Progress—Works of Berthelot, Mendeléeff, and Moissan: Sir James Dewar, F.R.S.

CHEMICAL SOCIETY, at 8.30.—The Relation between Absorption Spectra and Chemical Constitution, Part vii., Pyridine and some of its Derivatives: F. Baker and E. C. C. Baly.—The Interaction of Methylene Chloride and the Sodium Derivative of Ethyl Malonate: F. Tutin.—Molecular Weight of β-Naphthol in Solution in Solid Naphthalene: E. P. Perman and J. H. Davies.—Synthesis of Hexatriene Derivatives, Preliminary Notice: I. Smedley.—The Constitution of the Diazo-Compounds: J. C. Cain.—*p*-Cresol Sulphoxide and Sulphide: S. Smiles and T. P. Hilditch.—*p*-Dioxyphenylsulphoxide: S. Smiles and A. W. Bain.—Coloured Azo-derivatives of 1:3-Diphenylbarbituric Acid. Dynamic Isomerism among the Hydrazones of 1:3-Diphenylalloxan: M. A. Whiteley.—Dibromoaminoazobenzene: J. T. Hewitt and N. Walker.

FRIDAY, JUNE 7.

ROYAL INSTITUTION, at 9.—Studies in High Vacua and Helium at Low Temperatures: Sir James Dewar, F.R.S.

GEOLOGISTS' ASSOCIATION, at 8.—The Chalk of Surrey, Part ii., The Western Area: G. W. Young.

SATURDAY, JUNE 8.

ROYAL INSTITUTION, at 3.—The Contest between Guns and Armour: Sir William H. White, K.C.B., F.R.S.

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