hypothesis of Calmette, Vansteenberghe, and Grisez.—Researches on ammonium: Henri **Moissan.** The contents of a sealed letter deposited November 5, 1906. The presence of water is not necessary to the production of ammonium amalgam, since it can be produced by the interaction of sodium on the chloride or iodide of ammonium in liquid ammonia at −40° C. This reaction is, however, only possible in the presence of an excess of sodium. If the excess of sodium be removed by repeated washings with a solution of an ammonium salt in liquid ammonia, the so-called ammonium amalgam no longer exists. An account is also given of the product obtained by the electrolysis of the double iodide of mercury and ammonia in liquid ammonia.—Prof. Witz was elected a correspondant for the section of mechanics in the place of the late Prof. L. Boltzmann.—The form of the geoïd in the neighbourhood of Sahel, Algiers: MM. **Bourgeois** and **Noirel.**—A new method of regulating X-ray tubes: G. **Berlemont.** The arrangement proposed consists of an aluminium tube which can be connected at will to either the anode or kathode. The tube can be made either hard or soft in a few minutes.—The determination of the limits of inflammability of explosive mixtures of ether vapour and air: Jean **Meunier.** The lower limit of inflammability is about 75 milligrams of ether per litre of air; the upper limit is about 200 milligrams of ether per litre.—The reduction of magnesia by carbon: Paul **Lebeau.** Magnesia is reduced by carbon at the temperature of the electric furnace with the production of magnesium and magnesium carbide. Both products are in great part destroyed by the action of the furnace gases which diffuse through the carbon tubes. This gas contains much carbon monoxide, and it is known that magnesium reduces this gas with great facility.—Sulphide of aluminium and its combinations with manganese and iron sulphides: Marcel **Houdard.** Sulphide of aluminium, which is irreducible at the high temperatures of the electric furnace, forms with sulphide of manganese and sulphide of iron two double compounds, $Al_2S_4Mn$ and $Al_2S_4Fe$, a description of the properties of these two substances being given.—A new chloride of tantalum: C. **Chabrié.** The new chloride is obtained by the reduction of tantalum pentachloride with sodium amalgam. Its composition is given by the formula $TaCl_2{,}2H_2O$, and an account is given of its chemical behaviour.—A method of synthesis of non-substituted β-ketonic amides: Ch. **Moureu** and I. **Lazennec.** The acetylenic amides, heated in alcoholic solution with a secondary amine, best with piperidine, give good yields of the corresponding ketonic amides.—The migration of compounds possessing smell in the plant: Eug. **Charabot** and G. **Laloue.** The migration of these products from the leaves during inflorescence is proved.—The Lutetian in the Soudan and the Sahara: R. **Chudeau.**

## DIARY OF SOCIETIES.

*THURSDAY*, APRIL 25.

ROYAL SOCIETY, at 4.30.—*Croonian Lecture.*—On the Essential Constituents of the Nucleus and their Relation to the Organisation of the Individual: Prof. J. B. Farmer, F.R.S.

INSTITUTION OF MECHANICAL ENGINEERS, at 8.—Address by the President: T. Hurry Riches.

INSTITUTION OF ELECTRICAL ENGINEERS at 8.—Depreciation Provision on Electricity Supply Undertakings: R. Hammond.

*FRIDAY*, APRIL 26.

ROYAL INSTITUTION, at 9.—New Illuminants: James Swinburne, F.R.S.

PHYSICAL SOCIETY, at 5.—Electrical Conduction produced by Heating Salts: A. E. Garrett.—The Influence of Pressure upon Convection Currents, and a Criticism of J. Stark's Relation between Cathode Fall of Potential and Temperature: W. S. Tucker.—Solenoids which are turned by the Earth's Magnetic Field: W. B. Croft.—Simple Apparatus for mechanically illustrating the Tangent and Sine Laws: J. A. Tomkins.

*SATURDAY*, APRIL 27.

ROYAL INSTITUTION, at 3.—Studies in Magnetism: Prof. Silvanus P. Thompson, F.R.S.

*MONDAY*, APRIL 29.

SOCIETY OF ARTS, at 8.—Detergents and Bleaching Agents used in Laundry Work: Prof. Herbert Jackson.

ROYAL GEOGRAPHICAL SOCIETY, at 8.30.—Polar Problems: Dr. Fridtjof Nansen, G.C.V.O.

INSTITUTE OF ACTUARIES, at 5.—On Extra Premiums: H. E. W. Lutt.

*TUESDAY*, APRIL 30.

ROYAL INSTITUTION, at 3.—Stimulation, Luminous and Chemical: Prof. William Stirling.

SOCIETY OF ARTS, at 8.—Lustre Pottery: William Burton.

ANTHROPOLOGICAL INSTITUTE, at 8.15.—Lantern Demonstration of Two Contrasted Types of North American Indians: Dr. A. C. Haddon, F.R.S.

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

*WEDNESDAY*, MAY 1.

SOCIETY OF ARTS, at 8.—The Defence of the Sea Coast from Erosion: Alfred E. Carey.

ENTOMOLOGICAL SOCIETY, at 8.

GEOLOGICAL SOCIETY, at 8.—On the Xerophytic Character of Coal-Plants and a Suggested Origin of Coal-Beds: Prof. G. Henslow.—Petrological Notes on the Igneous Rocks lying to the South-East of Dartmoor: H. J. Lowe.

*THURSDAY*, MAY 2.

ROYAL SOCIETY, at 4.—Election of Fellows.—At 4.30.—The Spontaneous Crystallisation of Binary Mixtures. Experiments on Salol and Betol: Prof. H. A. Miers, F.R.S., and Miss F. Isaac.—On the Variation of the Pressure developed during the Explosion of Cordite in Closed Vessels: Prof. C. H. Lees, F.R.S., and J. E. Petavel.—Space described in a Given Time by a Projectile moving in Air: A. Mallock, F.R.S.

SOCIETY OF ARTS, at 4.30.—The Applicability to India of Italian Methods of Utilizing Silt: Sir Edward C. Buck, K.C.S.I.

LINNEAN SOCIETY, at 8.—The Fauna and Flora of Abyssinia compared with Those of West Africa: Prof. E. B. Poulton, F.R.S.—(1) Report on the Marine Biology of the Sudanese Red Sea (Communicated with an Introduction by the President); (2) Formation of the Shone Cliff near Alexandria; (3) Recent History of the Coral Reefs of the North-West Shores of the Red Sea: Cyril Crossland.—Polyplacophora collected by Mr. Cyril Crossland: E. R. Sykes.—On Chelonethi (Pseudoscorpions) from Asia and Australia: C. J. With.—Note on the Function of the Spiracle in certain Elasmobranchs: A. D. Darbishire.—*Exhibits*: (1) Probate of the Will of Richard Anthony Salisbury; (2) Manuscripts of Dr. W. J. Burchell, F.L.S., Presented to the University of Oxford by Francis A. Burchell, Esq., Rhodes University College, Grahamstown, Grand-nephew of the Great Naturalist and Explorer: Prof. E. B. Poulton.

CHEMICAL SOCIETY, at 8.30.—(1) The Chemical Action of Exradio, Part I., Action on Distilled Water; (2) The Chemical Action of Exradio, Part II, Action on Copper Salts in Solution. Preliminary Note: Sir W. Ramsay.—Freezing Point Curves of the Menthyl Mandelates: A. Findlay and E. M. Hickmans.—The Constitution of Homo-eriodictyol. A Crystalline Substance from Eriodictyon Leaves: F. B. Power and F. Tutin.—The Relation between Valency and Heats of Combustion. Preliminary note: G. Le Bas.

INSTITUTION OF ELECTRICAL ENGINEERS, at 8.—The Use of Wooden Poles for Overhead Power Transmission: C. Wade.

*FRIDAY*, MAY 3.

ROYAL INSTITUTION, at 9.—Dexterity and the Bend Sinister: Sir James Crichton-Browne, F.R.S.

GEOLOGISTS' ASSOCIATION, at 8.—The Igneous Rocks of the Bristol District: Prof. S. H. Reynolds.—The Carboniferous Limestone Sections of Burrington Combe and Cheddar: T. F. Sibly.—Recent Researches in the Lower Carboniferous Rocks: Dr. A. Vaughan.

*SATURDAY*, MAY, 4.

ROYAL INSTITUTION, at 3.—Scientific Work in the Sea-Fisheries: Prof. W. C. McIntosh.

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