

NEW SOUTH WALES.

Royal Society, December 5, 1906.—Prof. T. P. Anderson Stuart, president, in the chair.—Bibliography of Australian, New Zealand, and South Sea Island lichens (second paper): E. Cheel.—(1) Analysis of a specimen of sea-water from Coogee; (2) analysis of the ash of a New South Wales seaweed (*Ecklonia*); (3) analysis of Roman glass from Silchester, with special reference to the amount of manganese and iron present: C. J. White.—Analyses of chocolate shale and of tuffaceous sandstone, from the Narrabeen series: S. G. Walton. In these analyses special attention was paid to the determination of smaller pieces of the rarer elements.—Gold nuggets from New Guinea, showing a concentric structure: Prof. Liversidge. These nuggets presented the usual external appearance, but when sliced, polished, and etched with aqua regia, they showed in parts a concentric structure, but no macro-crystalline structure. Out of a very large number of gold nuggets examined for several years past, these two are the only ones which have shown a lamellar structure. Apparently the layers of gold were deposited within a cavity, in the same way as agates are built up by the deposition of layers of quartz and chalcedony. The evidence is against the successive layers having been deposited around a central nucleus. The gold in one was 88.95 per cent. and silver 1 per cent., and the other 88.25 per cent. and silver 1.05 per cent.—The rate of decay of the excited radio-activity from the atmosphere in Sydney: S. G. Lusby and T. Ewing. The rate of decay of the excited radio-activity in Sydney is found to be practically the same as that obtained by Rutherford and Allan for Montreal (*Phil. Mag.*, 1902) and by Bumstead in New Haven (*Am. Journ. Sci.*, 1904).

DIARY OF SOCIETIES.

THURSDAY, MARCH 14.

ROYAL SOCIETY, at 4.30.—On the Gravitational Stability of the Earth: Prof. A. E. H. Love, F.R.S.—The Total Ionisation of Various Gases by the  $\alpha$ -Rays of Uranium: T. H. Laby.—On the Ionisation of Various Gases by the  $\alpha$ -,  $\beta$ - and  $\gamma$ -Rays: R. D. Kleeman.—Capillary Electrometer Records of the Electrical Changes during the Natural Beat of the Frog's Heart: Prof. F. Gotch, F.R.S.  
ROYAL INSTITUTION, at 3.—Biology and Progress: Dr. C. W. Saleeby.  
SOCIETY OF ARTS, at 4.30.—The City of Madras: Sir James Thomson.  
MATHEMATICAL SOCIETY, at 5.30.—Exhibition of a New Calculating Machine: G. W. Evans-Cross.—On the Reduction of the Factorisation of Binary Septans and Octans to the Solution of Indeterminate Equations of the Second Degree: Dr. T. Stuart.—Invariants of the General Quadratic Form *Modulo 2*: Prof. L. E. Dickson.—On Partial Differential Equations of the First Order: J. Brill.  
INSTITUTION OF ELECTRICAL ENGINEERS, at 8.—*Adjourned discussion*: The Transmission of Electrical Energy by Direct Current on the Series System: J. S. Highfield.

FRIDAY, MARCH 15.

ROYAL INSTITUTION, at 9.—Problems of Applied Chemistry: Prof. G. Lunge.  
INSTITUTION OF MECHANICAL ENGINEERS, at 8.—Petrol Motor-Omnibuses: W. Worby Beaumont.

SATURDAY, MARCH 16.

ROYAL INSTITUTION, at 3.—Röntgen, Kathode, and Positive Rays: Prof. J. J. Thomson, F.R.S.

MONDAY, MARCH 18.

VICTORIA INSTITUTE, at 4.30.—Survivals of Primitive Religion amongst the People of Asia Minor: Rev. G. E. White.

TUESDAY, MARCH 19.

ROYAL INSTITUTION, at 3.—The Visual Apparatus of Man and Animals: Prof. William Stirling.  
INSTITUTION OF CIVIL ENGINEERS, at 8.—The Victoria Falls Bridge: G. A. Hobson.  
ROYAL STATISTICAL SOCIETY, at 5.  
SOCIETY OF ARTS, at 8.—Oils, Varnishes, and Mediums used in the Painting of Pictures: A. P. Laurie.  
ZOOLOGICAL SOCIETY, at 8.30.  
MINERALOGICAL SOCIETY, at 8.—On the Minerals of the Silvermines District, co. Tipperary: A. Russell.—On Baddeleyite from Ceylon: G. S. Blake and Dr. G. F. Herbert Smith.—On the Silver Deposit in the Perran Mine, Perranuthrice, Cornwall: F. H. Butler.—Zinciferous Tennantite from the Binnemhal: Dr. G. T. Prior and R. H. Folly.  
FARADAY SOCIETY, at 8.—The Potential of Hydrogen liberated from Metallic Surfaces: H. Nutton and H. D. Law.—Electrode Potentials in Liquid Ammonia: F. M. G. Johnson and N. T. M. Wilsmore.—The Impedance of Solutions in Solvents as manifested by Osmotic "Pressure": J. G. A. Rhodin.—The Electrolytic Deposition of Zinc, using Rotating Electrodes, ii.: Dr. T. Slater Price.

WEDNESDAY, MARCH 20.

SOCIETY OF ARTS, at 8.—Smoke Prevention in Factories and Electric Supply Stations: J. B. C. Kershaw.

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ENTOMOLOGICAL SOCIETY, at 8.—The Vinegar Fly (*Drosophila funebris*): E. E. Unwin.—The Structure and Life-history of the Holly Fly: Prof. L. C. Miall, F.R.S., and T. H. Taylor.  
ROYAL METEOROLOGICAL SOCIETY, at 7.30.—The Exploration of the Air: Major B. F. S. Baden-Powell.  
ROYAL MICROSCOPICAL SOCIETY, at 8.—Some South African Tardigrada: James Murray.—*Exhibition*: Specimens of British Mycetoza: A. E. Hilton.

THURSDAY, MARCH 21.

ROYAL INSTITUTION, at 3.—Biology and Progress: Dr. C. W. Saleeby.  
CHEMICAL SOCIETY, at 8.30.—The Synthesis of Polypeptides: Emil Fischer.—Organic Derivatives of Silicon, Part iii., *al*-Benzylmethyl-ethyl-propylsilicane and Experiments on the Resolution of its Sulphonic Derivative: F. S. Kipping.—On the Reduction of Carbon Dioxide to form Aldehyde in Aqueous Solutions: H. J. H. Fenton.—The Mechanism of the Rusting of Iron: G. T. Moody.—Some Compounds of Guanidine with Sugars, Part i., R. S. Morrell and A. E. Bellars.  
LINNEAN SOCIETY, at 8.—On the Origin of Angiosperms: E. A. Newell Arber and John Parkin.—*Exhibitions*: Water-colour Sketches of Alpine Flowers: Miss Helen Ward.—Photographs of Transvaal Trees and Tree Scenery: J. Burt Davy.  
INSTITUTION OF ELECTRICAL ENGINEERS, at 8.—Rail Corrugation: J. A. Panton.

FRIDAY, MARCH 22.

ROYAL INSTITUTION, at 9.—Rays of Positive Electricity: Prof. J. J. Thomson, F.R.S.  
PHYSICAL SOCIETY, at 5.—Experimental Mathematics: Mr. Pochin.—Logarithmic Lazytongs and Lattice Works: Mr. Blakesley.—A Micromanometer: Mr. Roberts.—Electrical Conduction produced by heating Salts: Mr. Garrett.  
INSTITUTION OF CIVIL ENGINEERS, at 8.—A Point in Turbo-Alternator Design: F. J. Kean.

SATURDAY, MARCH 23.

ROYAL INSTITUTION, at 3.—Röntgen, Kathode, and Positive Rays: Prof. J. J. Thomson, F.R.S.

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