

by MM. C. Friedel and E. Cumenge. The mineral occurs mixed with silica in a finely divided state at Montrose, Colorado. It dissolves readily in nitric acid, and contains uranium, vanadic acid, and potassium, together with traces of iron, alumina, copper, lead and barium. The composition was found to be  $2U_2O_3 \cdot V_2O_5 \cdot K_2O \cdot 3H_2O$ .—On some new and important applications of photography made in Canada in the production of plans, by M. A. Laussedat.—An attempt at a new form of the characteristic equation of fluids, by M. E. H. Amagat. A somewhat complex formula containing ten constants is given as a closer approximation to the behaviour of carbon dioxide than the usual  $pV=RT$  equation.—Prof. Ray Lankester was elected a Correspondant for the Section of Anatomy and Zoology, in the place of the late M. Lovén.—M. Lortet was also elected a Correspondant for the same section, in the place of the late M. Steenstrup.—On linear partial differential equations, by M. E. Vessiot.—Transformation of the X-rays by different bodies, by M. G. Sagnac.—Influence of very low temperatures on phosphorescence, by MM. Auguste and Louis Lumière.—The amplification of sounds in phonographs, by M. Dussaud. The intensity of the sound emitted by the phonograph increases with the diameter of the registering cylinder.—On the relation which exists between the molecular weights and densities of fluids, by M. Daniel Berthelot.—On the phosphorescence of strontium sulphide, by M. J. R. Moureu.—On ethene-pyrocatechol, by M. Ch. Moureu.—Method of analysis of acetone oils, and their composition, by MM. A. and P. Buisine. The acetone oils obtained from wool contain about 75 per cent. of ethyl-methylketone, and less than 5 per cent. of acetone.—On the combinations of phenyl hydrazine with alcoholic iodides, by MM. P. Genvresse and P. Bourcet.—On the direct transformation of ammonia into nitric acid in liquid media, by M. E. Demoussy.—On the fermentation of galactose, by M. Dienert.—On the source of the fossilised shells of ostracods which fell at Oullins, near Lyons, on September 24, 1898, by M. R. Fourtau. The author concludes that the shells could not have come from Egypt.

## DIARY OF SOCIETIES.

THURSDAY, MARCH 9.

ROYAL SOCIETY, at 4.30.—A Preliminary Note upon certain Organisms isolated from Cancer, and their Pathogenic Effects upon Animals: H. G. Plimmer.—On the Gastric Gland of Mollusca and Decapod Crustacea; its Structure and Functions: Dr. MacMunn.—On the Structure and Affinities of *Matonia pectinata*, R.Br., with Notes on the Geological History of the Matonineæ: A. C. Seward, F.R.S.—A Sugar Bacterium: Prof. H. Marshall Ward, F.R.S., and Prof. J. R. Green, F.R.S.—Note on a New Form of Light Plane Mirrors: A. Mallock.

SOCIETY OF ARTS (Indian Section), at 4.30.—Leprosy in India: H. A. Acworth.

MATHEMATICAL SOCIETY, at 8.—Note on a Property of Groups of Prime Degree: Prof. Burnside, F.R.S.—Note on the Expansion of  $\tan(\sin \theta)$ — $\sin(\tan \theta)$  in Powers of  $\theta$ : R. H. Pinkerton.—Remarks on the Phenomenon of Zeeman and its Bearing on the Problem of the Origin of Spectra: Dr. J. Larmor, F.R.S.—Note on Involution: G. B. Mathews, F.R.S.—The General Conic and its Normic Equations: Prof. A. Sawin.

INSTITUTION OF ELECTRICAL ENGINEERS, at 8.—Subject announced at Meeting of March 2.

FRIDAY, MARCH 10.

ROYAL INSTITUTION, at 9.—Measuring Extreme Temperatures: Prof. H. L. Callendar, F.R.S.

ROYAL ASTRONOMICAL SOCIETY, at 8.—(1) Occultations observed during the Lunar Eclipse of 1898 December 27; (2) Nebulæ observed during the Year 1898: Cape Observatory.—On the Use of the Electric Light for the Artificial Star of a Zöllner Photometer: W. de Sitter.—The Radiant Point of the April Meteors (Lyrids): W. F. Denning.—Observations of Hind's Variable Nebula in Taurus: E. E. Barnard.—Determination of the Diameter and Compression of the Planet Mars: Prof. W. Schur.—Periodic Variation in the Colours of the Equatorial Belts of Jupiter: A. Stanley Williams.—Double-Star Observations, 1895-98: W. H. Maw.—Papers promised: (1) Note on the Diurnal Variations of the Nadir and Level of the Greenwich Transit Circle; (2) The Greenwich Meridian Observations of Polaris, 1836-93, with Reference to Personality, the Constant of Aberration, and the Star's Parallax: Royal Observatory, Greenwich.

PHYSICAL SOCIETY, at 5.—(1) A Study of an Apparatus for the Determination of the Rate of Diffusion of Solids dissolved in Liquids; (2) Note on the Source of Energy in Diffusive Convection: Albert Griffiths.—An Exhibition of Dr. A. Wehnelt's Electrolytic Current Interruptor for Ruhmkorff Coils: A. A. Campbell Swinton.

INSTITUTION OF CIVIL ENGINEERS, at 8.—The Construction of the Elan Aqueduct, Birmingham Waterworks: H. Lapworth.

MALACOLOGICAL SOCIETY, at 8.—On an Apparently Undescribed *Ariophanata* from Mysore, with a Note on *Matraella dussumieri*: W. T. Blanford.—Description of a New Species of *Hemiptera* from Perak: Edgar A. Smith.—On a New Species of *Dinoplax* and *Chiton* from South Africa: E. R. Sykes.—Description of Five New Species of New Zealand Land Mollusca: H. Suter.

SATURDAY, MARCH 11.

ROYAL INSTITUTION, at 3.—Mechanical Properties of Bodies: Lord Rayleigh, F.R.S.

MONDAY, MARCH 13.

SOCIETY OF ARTS, at 8.—Cycle Construction and Design: Archibald Sharp.

ROYAL GEOGRAPHICAL SOCIETY (at the University of London, Burlington Gardens, W.), at 8.30.—The Uses of Practical Geography, as Illustrated in Recent Frontier Operations: Colonel Sir T. H. Holdich, K.C.I.E., C.B., R.E.

TUESDAY, MARCH 14.

ROYAL INSTITUTION, at 3.—Morphology of the Mollusca: Prof. E. Ray Lankester, F.R.S.

ANTHROPOLOGICAL INSTITUTE, at 8.—Secret Tribal Societies of West Africa: H. P. FitzGerald Marriott.

INSTITUTION OF CIVIL ENGINEERS, at 8.—Papers to be discussed: Water-Tube Boilers for Marine Engines: J. T. Milton.—Recent Trials of the Machinery of War-Ships: Sir A. J. Durston, K.C.B., R.N., and H. J. Oram, R.N.

ROYAL PHOTOGRAPHIC SOCIETY, at 8.—Theoretical Considerations in choosing Colours for Three-Colour Printing: Captain W. de W. Abney, C.B., F.R.S.

WEDNESDAY, MARCH 15.

SOCIETY OF ARTS, at 8.—Liquid Fuel: Sir Marcus Samuel.

ROYAL MICROSCOPICAL SOCIETY, at 8.—The Projection Microscope: Lewis Wright.

THURSDAY, MARCH 16.

ROYAL SOCIETY, at 4.30.—The Croonian Lecture: On the Relation of Motion in Animals and Plants to the Electrical Phenomena which are associated with it: Prof. J. Burdon Sanderson, F.R.S.

LINNEAN SOCIETY, at 8.—So-called Quintocubitalism in the Wing of Birds: P. Chalmers-Mitchell.—Some Facts concerning the so-called Quintocubitalism of the Bird's Wing: W. P. Pycraft.—A Further Contribution to the Freshwater Algae of the West Indies: W. West and G. S. West.

CHEMICAL SOCIETY, at 8.—Influence of Substitution on Specific Rotation in the Bornylamine Series: Dr. M. O. Forster.—Rotatory Power of Optically Active Methoxy- and Ethoxy-propionic Acids prepared from Active Lactic Acid: Prof. Thomas Purdie, F.R.S., and James C. Irvine.

FRIDAY, MARCH 17.

ROYAL INSTITUTION, at 9.—The Electric Fish of the Nile: Prof. F. Gotch, F.R.S.

EPIDEMIOLOGICAL SOCIETY, at 8.30.—Backwater or Hæmoglobinuric Fever: Dr. W. H. Crosse.

SATURDAY, MARCH 18.

ROYAL INSTITUTION, at 3.—Mechanical Properties of Bodies: Lord Rayleigh, F.R.S.

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