

comparable with those of the stalked crinoids of the deep sea.—Some remarkable Australian Corduliinae (Neuroptera: Odonata), with descriptions of new species: R. J. Tillyard. The paper deals with new or little-known Corduliinae from northern Queensland. Three new genera are proposed:—Austrophya, allied to Cordulophya; Pseudocordulia, closely allied to Gomphomacromia; and Austrocordulia, allied to Syncordulia and the European Oxygastra. Five new species and the hitherto unknown male of the beautiful *Macromia tillyardi*, Martin, are described.—Notes on the geology of the north-west coast of Tasmania, from the River Tamar to Circular Head: T. Stephens. It seems probable that the basaltic sheets rising from the coast had their origin in fissure-eruptions along anticlinal axes, intervening folds being subsequently hollowed out by the erosion of rivers or by glaciers slowly moving northward along the lines of the present river valleys. With the exception of the fossils of the Tertiary beds near Table Cape, and the fossil wood from a breccia west of the River Leven, no evidence of any trace of organic remains in the rocks of the north-west coast has yet been placed on record.—Description of a new fruit-fly of the genus *Dacus* from New South Wales: D. W. Coquillett.

## DIARY OF SOCIETIES.

### THURSDAY, DECEMBER 10.

ROYAL SOCIETY, at 4.30.—Reciprocal Innervation of Antagonistic Muscles. XIIth Note: Proprioceptive Reflexes. XIIIth Note: On the Antagonism between Reflex Inhibition and Reflex Excitation: Prof. C. S. Sherrington, F.R.S.—Electrolytes and Colloids. The Physical State of Gluten: Prof. T. B. Wood and W. B. Hardy, F.R.S.—On the Specific Heats of Air and CO<sub>2</sub> at Atmospheric Pressure by the Continuous Electric Method at 20° and 100° C.: W. F. G. Swann.—Potential Gradient in Glow Discharges from a Point to a Plane: J. W. Bispham.—The Extension of Cracks in an Isotropic Material: A. Mallock, F.R.S.—Results of Magnetic Observations at Stations on the Coasts of the British Isles, 1907: Commander L. Chetwynd, R.N.—The Rotation of the Electric Arc in a Radial Magnetic Field: J. Nicol.—On Anomalies in the Intensity in Diffracted Spectra: Dr. H. C. Pocklington, F.R.S.—The Isothermal Layer of the Atmosphere and Atmospheric Radiation: E. Gold.—A Comparison of the Radium Emanation Spectra obtained by Different Observers: T. Royds.

INSTITUTION OF ELECTRICAL ENGINEERS, at 8.—Output and Economy Limits of Dynamo Electric Machinery: J. C. Macfarlane and H. Burge.—*Probable Paper*: Commercial Electric Heating: J. Roberts.

ROYAL SOCIETY OF ARTS, at 4.30.—The Birds of India: Douglas Dewar.

MATHEMATICAL SOCIETY, at 5.30.—On the Propagation of Sound Waves Vertically in the Atmosphere: Prof. H. Lamb.—(1) On Sir William Rowan Hamilton's Fluctuating Functions; (2) On the Representation of a Function by Series of Bessel's Functions: Dr. E. W. Hobson.—Theory of Cauchy's Principal Values (Fourth Paper): G. H. Hardy.—Solution of a Problem of Mersenne's: Dr. T. Stuart.—Note on a Continued Fraction Equivalent to the Remainder after *n* Terms of Taylor's Series: Prof. L. J. Rogers.—Solid Angles and Potentials of Plane Discs: Balak Ram.—The Solution of the Homogeneous Linear Difference Equation of the Second Order: G. N. Watson.—On Differentials: Dr. W. H. Young.

### FRIDAY, DECEMBER 11.

ROYAL ASTRONOMICAL SOCIETY, at 5.—An Improved Telescope Triple Object Glass: J. W. Gifford.—On the Determination of the Apparent Diameter of a Fixed Star: Major P. A. MacMahon.—Note on Spectral Class and Stellar Colour: Julia Bell.—Analysis of the Colours and Magnitudes of 3650 Stars between the North Pole and 25° South Declination: W. S. Franks.—A New "Cave Nebula" in Cepheus: Max Wolf.—On Some Points with Regard to the Light Fluctuations of Variable Stars: Karl Pearson.

PHYSICAL SOCIETY, at 7.—Exhibition of Electrical, Optical, and other Physical Apparatus.

MALACOLOGICAL SOCIETY, at 8.—On *Carelia pilsbryi*, n.sp.: E. R. Sykes.—The Radulae of British Helicids, Pt. II.: Rev. E. W. Bowell.—New Species of Plectopylis: G. K. Gude.—A Preliminary List of Recent Middlesex Mollusca: J. E. Cowper and A. Loydell.—The Application of the Names Gomphina, Marcia, Hemitapes and Katelsya: A. J. Jukes-Browne.

### MONDAY, DECEMBER 14.

ROYAL GEOGRAPHICAL SOCIETY, at 8.30.—Fifty Years of Nile Exploration and Some of its Results (The Jubilee of Speke's Discovery of the Victoria Nyanza): Sir William E. Garstin, G.C.M.G.

ROYAL SOCIETY OF ARTS, at 8.—Twenty Years' Progress in Explosives: Oscar Guttman.

INSTITUTE OF ACTUARIES, at 5.—On a New Method of Constructing and of Graduating Mortality and other Tables: G. King.

### TUESDAY, DECEMBER 15.

ZOOLOGICAL SOCIETY, at 8.30.—A Hunting-trip to Thian-Shan, illustrated by Lantern-slides: F. Gillett.—Some Notes on the Muscular and Visceral Anatomy of the Batrachian Genus *Hemisus*, with Notes on the Lymph Hearts of this and other Genera: F. E. Beddard.—Description of a New Species of *Lacerta* from Persia: G. A. Boulenger, F.R.S.—Remarks on some Wart-hog Skulls in the British Museum: Dr. Einar Lönnberg.—On two Chinese Serow Skulls: R. Lydekker, F.R.S.—Warning Coloration in the Musteline Carnivora: R. I. Pocock.—On a New River-crab of the Genus *Gecarcinus*, from New Guinea: Dr. W. T. Calman.—The Duke of Bedford's Exploration of Eastern Asia. XI., On Mammals from the Provinces of Shan-si and Shen-si, Northern China: Oldfield Thomas, F.R.S.

NO. 2041, VOL. 79]

FARADAY SOCIETY, at 8.—The Redetermination of the Electrolytic Potentials of Silver and Thallium: Dr. F. J. Brisell.—The Heats of Combustion of Aluminium, Calcium, and Magnesium: F. E. Weston and H. R. Ellis.—The Formation of Graphite by the Interaction of Magnesium Powder and Carbonates: H. Russell Ellis.—Colloidal Barium Sulphate: Dr. E. Feilmann.

INSTITUTION OF CIVIL ENGINEERS, at 8.—*Further Discussion*: The Rotherhithe Tunnel: E. H. Tabor.

ROYAL STATISTICAL SOCIETY, at 5.

### WEDNESDAY, DECEMBER 16.

GEOLOGICAL SOCIETY, at 8.

ROYAL SOCIETY OF ARTS, at 8.—London Milk Supply from a Farmer's Point of View: Primrose McConnell.

ROYAL MICROSCOPICAL SOCIETY, at 8.—(1) A Workshop Microscope for the Examining of Opaque Objects; (2) A Simple Method of Illuminating Opaque Objects: J. E. Stead, F.R.S. on Mounting Rotifers and Protista in Canada Balsam: Rev. E. Tozer.

ROYAL METEOROLOGICAL SOCIETY, at 7.30.—Some Forms of Scientific Kites: E. S. Bruce.—(1) The Registering Balloon Ascents of July 27–August 1, 1908; (2) Balloon Observations at Ditcham, July 27–August 2, 1908: C. J. P. Cave.

### THURSDAY, DECEMBER 17.

LINNEAN SOCIETY, at 8.—The Anomura of the Red Sea: W. Riddell.—Forms of Flowers in *Valeriana dioica*: R. P. Gregory.—Études sur les Cirripèdes du Cambridge Museum: Prof. A. Gruvel.—Rhynchota from the *Sealark* Expedition: W. L. Distant.

INSTITUTION OF ELECTRICAL ENGINEERS, at 8.—The Electric Discharge and the Production of Nitric Acid: W. Cramp and B. Hoyle.

### FRIDAY, DECEMBER 18.

INSTITUTION OF MECHANICAL ENGINEERS, at 8.—Type-casting and Composing Machinery: L. A. Legros.

INSTITUTION OF CIVIL ENGINEERS, at 8.—High-power Water-turbines on Moderate Falls: R. Wolfenden.

## CONTENTS.

	PAGE
Biological Research on the Lancashire Coast. By W. W.	151
Laboratory Arts. By Prof. C. V. Boys, F.R.S.	152
Moral Education. By Prof. J. A. Green	154
Climate	155
School Arithmetics	156
German Philosophical Text-books. By William Brown	157
Our Book Shelf:—	
Makower: "The Radio-active Substances."	157
J. A. M.	157
Cesaresco: "The Psychology and Training of the Horse."	158
Drabble: "Elementary Botany"; Wagner: "Biologie unserer einheimischen Phanerogamen"	158
Schlomann: "The Deinhardt Schlomann Series of Technical Dictionaries in Six Languages: German, English, French, Russian, Italian, Spanish"	158
Parker: "Highways and Byways in Surrey"	158
Letters to the Editor:—	
Students' Physical Laboratories.—Prof. John Perry, F.R.S.	159
A Model Atom.—Harry Bateman	159
Silk-producing Insects of West Africa.—Gerald C. Dudgeon	160
Vitality of Leaves.—Dr. Walter Kidd	160
The Exhibition of Fishes in Museums.—Dr. F. A. Lucas	160
An Electromagnetic Problem.—Prof. Arthur W. Conway	160
Mercury Bubbles.—Philip Blackman; C. E. Stromeyer	160
The Organisation of Rural Education	161
The Childhood of Man. (Illustrated.) By Dr. A. C. Haddon, F.R.S.	162
Albert Gaudry. By A. S. W.	163
Notes	164
Our Astronomical Column:—	
The Spectrum of Comet Morehouse, 1908c	169
The Changes in the Tail of Comet Morehouse	169
Determination of Longitude by Wireless Telegraphy	169
Spectroscopic Binaries	169
A Recent Observation of Nova Cygni	169
Some Recent Publications of Geological Surveys. (Illustrated.) By G. A. J. C.	170
Three Volumes on North Sea Fishery Investigation	172
The Dawn of Meteorology. (Illustrated.) By Prof. G. Hellmann	173
University and Educational Intelligence	176
Societies and Academies	177
Diary of Societies	180