demonstrate the magnetic effect of convection currents. This method is free from the experimental difficulties which arise from the use of astatic couples, but does not lend itself to quantitative measurements.—A new theory of influence machines: V. **Schaffers.**—On the relation which exists between sudden variations of the reluctance of a magnetised steel bar submitted to traction and the formation of Lüders's lines: L. **Fraichet.** During the time that new lines are being formed on the test piece, the variation of the reluctance is discontinuous, and when the variation of reluctance becomes continuous no new lines are observed.—Remarks on the subject of a note on osmosis by M. A. Guillemin: A. **Ponsot.**—On the use of the alternating current in electrolysis: André **Brochet** and Joseph **Petit.**—On the reduction phenomena produced by the action of alternating currents: F. **Pearce** and Ch. **Couchet.** Ferric alum is reduced nearly quantitatively by an alternating current when iron electrodes are used; alkaline nitrates are reduced to nitrites with electrodes of cadmium and zinc. The reduction of other inorganic salts is mentioned, and also the production of aniline from nitrobenzene.—The production of the sulphides of phosphorus in the cold: R. **Boulouch.**—Observations relating to the action of heat and light on mixtures of phosphorus sesquisulphide and sulphur in solution in carbon bisulphide: E. **Dervin.**—The action of carbonic acid upon solutions of sodium nitrite: C. **Marie** and R. **Marquis.** In opposition to the statements of M. Louis Meunier, the authors maintain that nitrous acid is set free by the action of carbon dioxide upon a solution of sodium nitrite.—On the constitution and properties of vanadium steels: Léon **Guillet.**—On the diureides: homoallantoic ether: L. J. **Simon.**—On the phosphoric esters of glycol: P. **Carré.**—On the nature of starch: L. **Maquenne.**—The biochemical synthesis of olein and some esters: Henri **Pottevin.**—The formation of turpene compounds in the chlorophyll organs: Eug. **Charabot** and Alex. **Hébert.**—On the presence of an oxidising-reducing diastase in plants: J. E. **Abelous** and J. **Aloy.**—The geographical distribution of the marine Bryozoa and the theory of bipolarity: L. **Calvet.**—The influence of temperature on the duration of the phases of indirect division: J. **Jolly.**—On the assimilation of alcohols and aldehydes by *Sterigmatocystis nigra*: Henri **Coupin.** Certain alcohols, such as ethyl alcohol, glycerol, and mannite can be assimilated by the moulds, others (methyl alcohol, glycol) are indifferent, whilst a third class (amyl, propyl, butyl) are toxic.—On a special function of the mycorhizome of the lateral roots of vanilla: H. Jacob **de Cordemoy.**—On the stratification of the Montagne Noire: J. **Bergeron.**—Geological observations in the neighbourhood of Thonon-les-Bains: H. **Douxami.**—*Palaeoblattina Douvillei*—an insect or a trilobite: M. **Agnus.**

DIARY OF SOCIETIES.

THURSDAY, FEBRUARY 18.

ROYAL SOCIETY, at 4.30.—Further Researches on the Temperature Classification of Stars: Sir J. Norman Lockyer, K.C.B., F.R.S.—Theory of Amphoteric Electrolytes: Prof. J. Walker, F.R.S.—Note on the Formation of Solids at Low Temperatures, particularly with regard to Solid Hydrogen: Prof. M. W. Travers.—Atmospherical Radio-activity in High Latitudes: G. C. Simpson.

ROYAL INSTITUTION, at 5.—Recent Research in Agriculture: A. D. Hall.

LINNEAN SOCIETY, at 8.—Mendel's Laws as Illustrated by Wheat Hybrids: R. H. Biffen. Heredity and Variation as seen in *Primula sinensis*: W. Bateson, F.R.S.—Formation of Secondary Wood in Psilotum: L. A. Boodle.

FRIDAY, FEBRUARY 19.

ROYAL INSTITUTION, at 9.—Condensation Nuclei: C. T. R. Wilson, F.R.S.

GEOLOGICAL SOCIETY, at 8.—Anniversary Meeting.

INSTITUTION OF MECHANICAL ENGINEERS, at 8.—Annual General Meeting; followed by Discussion on Heat Treatment of Steel.—The Motion of Gases in Pipes, and the Use of Gauges to Determine the Delivery: R. Threlfall, F.R.S.

EPIDEMIOLOGICAL SOCIETY, at 8.30.—The Etiology of Scurvy: Dr. Myer Coplans.

SATURDAY, FEBRUARY 20.

ROYAL INSTITUTION, at 3.—The Life and Work of Stokes: Lord Rayleigh.

MONDAY, FEBRUARY 22.

SOCIETY OF ARTS, at 8.—Modern Book Printing: Charles T. Jacobi.

SOCIETY OF CHEMICAL INDUSTRY, at 8.—Duty Free Alcohol: Thomas T. Tyrer.

ROYAL GEOGRAPHICAL SOCIETY, at 8.30.—A Pioneer Expedition to Angola: Capt. Boyd A. Cuninghame.—A Journey in Northern Uganda: Major P. H. G. Powell-Cotton.

VICTORIA INSTITUTE, at 4.30.—Observations on the Irrigation of India: Charles W. Odling.

TUESDAY, FEBRUARY 23.

ROYAL INSTITUTION, at 5.—Japanese Life and Character: Prof. E. Foxwell.

ANTHROPOLOGICAL INSTITUTE, at 8.15.—The Fijians in Peace and War: W. L. Allardyce, C.M.G.

INSTITUTION OF CIVIL ENGINEERS, at 8.—The Construction of Railway-Wagons in Steel: J. D. Twinberrow.—The Construction of Iron and Steel Railway Wagons: A. L. Shackleford.—Iron and Steel Railway-Wagons of High Capacity: J. T. Jepson.

WEDNESDAY, FEBRUARY 24.

SOCIETY OF ARTS, at 8.—Mahogany and other Fancy Woods available for Constructive and Decorative Purposes: Frank Tiffany.

SOCIETY FOR THE PROTECTION OF BIRDS, at 3.—Annual Meeting.

GEOLOGICAL SOCIETY, at 8.—Eocene and Later Formations surrounding the Dardanelles: Lieut.-Col. Thomas English, with Appendices by Dr. John Smith Flett, R. Holland, and R. B. Newton.—The Derby Earthquakes of March 24 and May 3, 1903: Dr. C. Davison.

THURSDAY, FEBRUARY 25.

ROYAL SOCIETY, at 4.30.—*Probable Papers*: The Electromotive Phenomena in Mammalian Non-medullated Nerve: Dr. N. H. Alcock.—Further Observations on the *Rôle* of the Blood-Fluids in connection with Phagocytosis: Dr. A. E. Wright and Capt. S. R. Douglas.—A Contribution to the Pharmacology of Indian Cobra-venom: Major R. H. Elliot.

ROYAL INSTITUTION, at 5.—Electrical Methods of Measuring Temperature: Prof. H. L. Callendar, F.R.S.

INSTITUTION OF ELECTRICAL ENGINEERS, at 8.—Transatlantic Engineering Schools and Engineering: Dr. R. M. Walmsley. (Adjourned Discussion.)

FRIDAY, FEBRUARY 26.

ROYAL INSTITUTION, at 9.—New Developments in Electric Railways: Alex. Siemens.

PHYSICAL SOCIETY, at 5.

SATURDAY, FEBRUARY 27.

ROYAL INSTITUTION, at 3.—The Life and Work of Stokes: Lord Rayleigh.

INSTITUTION OF CIVIL ENGINEERS, at 8.—Boiler-house Design: L. G. Crawford.

CONTENTS.

	PAGE
Morphology of the Flowering Plants. By J. B. F.	361
Applications of Physical Chemistry. By W. R.	362
School Mathematics	363
Our Book Shelf:—	
Hill and Webb: "Eton Nature Study and Observational Lessons"	364
Juhl: "Camera-Kunst"	364
Cuming and Shepherd: "The Arcadian Calendar."—R. L.	364
Letters to the Editor:—	
The Victoria Nyanza Jelly Fish.—J. E. S. Moore	365
The Blondlot *n*-Rays.—John Butler Burke	365
Radiations producing Photographic Reversal	365
Radium Débris.—John B. Cop[illegible]ock	365
Phosphorescence of Photographic Plates.—Walter J. Clarke	366
Hering's Theory of Heredity, and its Consequences.—Capt. F. W. Hutton, F.R.S	366
Curious Shadow Effects. (*Illustrated*.)—W. Larden; Prof. J. M. Pernter; R. T. Omond	369
Corrections in Nomenclature: Caling Whale.—J. A. Harvie Brown	370
The Centenary of Kant. By Alfred Earl	370
The Formation of Coral Reefs. (*With Diagrams*.) By J. Stanley Gardiner	371
Photo-Telephony. By Shelford Bidwell, F.R.S.	373
Notes	374
Our Astronomical Column:—	
Ephemeris for the Minor Planet (7), Iris	377
Observations of Mars during 1903	377
A Catalogue of 829 South Polar Stars	377
The Climatology of 1903	378
Meridian-circle Observations at the Lick Observatory	378
M. Blondlot's *n*-Ray Experiments	378
University and Educational Intelligence	380
Societies and Academies	380
Diary of Societies	384