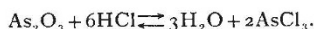


differential equation  $y'' + \lambda A(x)y = 0$ : Max **Mason**.—On the relation which exists between the velocity of combustion of powders and the pressure: R. **Liouville**.—Optical properties of iono-plastic iron: L. **Houllevigue**.—On the theory and imitation of the motion of sails: A. **Bazin**.—On the use of the centrifugal method in the analysis of cocoa and chocolate: F. **Bordas** and M. **Touplain**. It is necessary, to avoid some practically impossible filtrations, to use an apparatus capable of nearly 2000 revolutions a minute.—New method for a quick analysis of milk: F. **Bordas** and M. **Touplain**. By centrifugal means one avoids much filtration as well as the protracted desiccation of the casein.—An apparatus for giving warning of the presence of luminous gas and afterdamp: MM. **Hanger** and **Pescheux**.—The crystalloluminescence of arsenious acid: M. **Guinchant**. This appears to be due to a chemical phenomenon corresponding with the reversible reaction



—On the emission spectrum of the high tension electric arc: J. **de Rowalski** and P. **Joye**.—On a simple method for the study of oscillating sparks: G. A. **Hemsalech**. The method depends on the fact that a current of air directed on such a spark can separate out the oscillations.—Apparatus and methods in the medical applications of static electricity: L. **Benoist**. An attempt to systematise the usage based on the consideration of electric density.—On the mode of formation of some monosubstituted derivatives of urethane: F. **Bodroux**. When small quantities of ethyl carbonate are dropped into an ether solution of the magnesium derivative of an aromatic primary amine, a lively reaction takes place. If aniline be used, phenylurethane is formed.—On the mineralogical analysis of arable earths: J. **Dumont**. The author describes methods for quantitatively determining the proportions of sand, mica, felspar, quartz, &c.—On some Crustacea resulting from the expedition of the *Princess Alice*: H. **Coutiere**. By the use of a net with a large aperture a considerably more valuable collection was made.—On the excitation of nerves by a minimum of energy, and its application to electrodiagnosis: M. **Cluzet**. By experiments made on the nerves of human beings, it has been found through the application of a formula that the duration of minimum excitation may be 0.00020 second.—Physiology of the spleen: MM. **Charrin** and **Moussu**. The experiments made tended to elucidate the much discussed question as to the functional relationship between the liver and the spleen.—The action of intestinal fluid on enteric secretion: A. **Frouin**. Many facts seem to prove that this exciting action is not due to secretin.—Researches on animal lactase: H. **Bievry**. The experiments show that lactase is not contained in the pancreatic juice of suckling puppies.—On the production of alcohol and acetone by muscles: F. **Maignan**. The author replies in the affirmative to the question as to whether these substances, which are normally present in muscle tissue, arise by alcoholic fermentation of glucose by the agency of protoplasm. But while the acetone continues to be formed, the alcohol is sooner or later destroyed again.

## DIARY OF SOCIETIES.

### THURSDAY, APRIL 27.

INSTITUTION OF ELECTRICAL ENGINEERS, at 8.—Discussion: Mr. B. J. Arnold's Address to the Joint Meeting at St. Louis on the Problem of the Alternate Current Motor applied to Traction.—Paper: The Alternate Current Series Motor: F. Creedy.

### FRIDAY, APRIL 28.

EPIDEMIOLOGICAL SOCIETY, at 8.30.

### MONDAY, MAY 1.

ROYAL INSTITUTION, at 5.—Annual Meeting.  
SOCIETY OF CHEMICAL INDUSTRY, at 8.—(1) The Study of the Action of Hydrogen Peroxide on a Photographic Plate in the Dark; (2) On the Influence of the Length of the Time of Development on the Degree of Darkening of the Photographic Plate: Prof. Chiri Otsuki.  
VICTORIA INSTITUTE, at 4.30.—The Influence of Physiological Discovery on Thought: Dr. E. P. Frost.

### TUESDAY, MAY 2.

ZOOLOGICAL SOCIETY, at 8.30.—On *Leucosolenia contorta*, Bowerbank, *Ascandra contorta*, Haeckel, and *Ascetta spinosa*, Lendenfeld: Prof

E. A. Minchin.—Some Notes upon the Anatomy of the Ferret-Badger (*Helictis personata*): F. E. Beddard, F.R.S.—Contributions to the Osteology of Birds, Part vii., Eurylæmidae, with Remarks on the Systematic Position of the Group: W. P. Pycraft.  
ROYAL INSTITUTION, at 5.—The Study of Extinct Animals: Prof. L. C. Miall, F.R.S.  
SOCIETY OF ARTS, at 4.30.—The Monumental Treatment of Bronze: J. Starkie Gardner.

### WEDNESDAY, MAY 3.

ENTOMOLOGICAL SOCIETY, at 8.—The Structure and Life-history of *Psychoda sexpunctata*, Curtis: J. A. Dell.  
SOCIETY OF PUBLIC ANALYSTS, at 8.  
SOCIETY OF ARTS, at 8.—Recent Excavations in Rome: Mrs. Burton-Brown.

### THURSDAY, MAY 4.

ROYAL INSTITUTION, at 5.—Flame: Sir James Dewar, F.R.S.  
CHEMICAL SOCIETY, at 8.—The Synthesis of Substances Allied to Adrenaline: H. D. Dakin.—Methylation of  $\beta$ -Aminobenzoic Acid by Means of Methyl Sulphate: J. Johnston.—Some Notes on Sodium Alum: J. N. Wadmore.—Camphoryl- $\psi$ -Semicarbazide: M. O. Forster and H. E. Fierz.  
RÖNTGEN SOCIETY, at 5, (1) to Medical Members only. Forty-two Cases of Uteral Calculus Diagnosis by X-Rays proved by Operation on the Passage of the Calculi; (2) at 8.15 p.m., to the General Meeting, Measurement and Technique in Therapeutic Dosage: Dr. C. Lester Leonard, Philadelphia.  
LINNEAN SOCIETY, at 8.—Ecology: its Present Position and Probable Development: A. G. Tansley.—The Flora of Gough Island: R. N. R. Brown.  
CIVIL AND MECHANICAL ENGINEERS' SOCIETY, at 7.30.—Annual General Meeting.—At 8.—Card-Indexing and Filing: J. C. Osborne.

### FRIDAY, MAY 5.

ROYAL INSTITUTION, at 9.—Problems underlying Nutrition: Prof. H. E. Armstrong, F.R.S.

### SATURDAY, MAY 6.

ROYAL INSTITUTION, at 3.—Moulds and Mouldiness: Prof. Marshall Ward, F.R.S.

## CONTENTS.

	PAGE
Three Cambridge Mathematical Works. By Prof. G. H. Bryan, F.R.S.	601
Rein's "Japan." By Dr. Henry Dyer	603
Making a Pasture	604
Sociology. By F. W. H.	605
Our Book Shelf:—	
Balfour: "First Report of the Wellcome Research Laboratories at the Gordon Memorial College, Khartoum."—Prof. R. T. Hewlett	605
Grindon: "Till the Sun Grows Cold"	606
Gregory: "A Short Introduction to the Theory of Electrolytic Dissociation"	606
Letters to the Editor:—	
Electromagnetics in a Moving Dielectric.—Oliver Heaviside, F.R.S.	606
The Dynamical Theory of Gases.—J. H. Jeans	607
Growth of a Wave-group when the Group-velocity is Negative.—Dr. H. C. Pocklington	607
The Transposition of Zoological Names.—Dr. R. Lydekker, F.R.S.	608
A little known Property of the Gyroscope.—Prof. William H. Pickering	608
Have Chemical Compounds a Definite Critical Temperature and Pressure of Decomposition?—Geoffrey Martin	609
Experiment on Pressure due to Waves.—Sidney Skinner	609
Tantalum. (Illustrated.) By Dr. F. Mollwo Perkin	610
Primitive Water-Supply. (Illustrated.)	611
Henry Benedict Medlicott, F.R.S. By W. T. B.	612
Notes	613
Our Astronomical Column:—	
Astronomical Occurrences in May	617
Elements and Ephemeris for Comet 1905 <i>a</i> (Giacobini)	617
Changes on Mars	618
Photography of Planetary Nebulae	618
Radial Velocities of "Standard velocity Stars"	618
Magnitude Equation in the Right Ascensions of the Eros Stars	618
Memoirs on Marine Biology	618
The Physical History of the Victoria Falls. (Illustrated.)	619
Seismological Notes	620
Societies and Academies	621
Diary of Societies	624