in Monge's problem: P. **Zervos.**—The general problem of probabilities in repeated trials: L. **Bachelier.**—The secondary rays from the α rays: William **Douane.** The production of the secondary rays ceases almost entirely when the radium salt is removed more than 2 cm. from the slit; this distance is precisely that which was found in earlier experiments for the charge of the α rays.—The potential difference and stability of the alternating arc between metals: C. E. **Guye** and A. **Bron.** The contradictory results of earlier workers are largely due to the difficulty of maintaining the stability of the arc. The authors have obtained arcs of high stability by bringing the electrodes to a temperature near their melting points, and having a large reserve of potential (20,000 volts) in open circuit. For metals which are slightly volatile the potential difference, under equal conditions, tends to a lower limit, approximately the same (about 470 volts) for all metals.—The existence and origin of harmonics in the self-induction spark: G. A. **Hemsalech.**—The impossibility of diagnosing death by the radiography of the abdominal organs: Maxime **Ménard.**—Contribution to the study of the oxidation phenomena produced by iodic and bromic acids: H. **Baubigny.** Bromide of silver in ammoniacal solution is stated to be converted at 100° by iodic acid into silver iodide and ammonium bromide; this statement is now shown to be erroneous, the reaction in reality being quite different. A small proportion of the ammonia is oxidised by the iodate at 200°, nitrogen, water, and ammonium iodide being produced.—A new volumetric method allowing the simultaneous estimation of carbonic acid and other acids in atmospheric air: H. **Henriet** and M. **Bouyssy.**—The estimation of tungstic acid and its separation from other substances by the use of a mixture of chlorine and chloride of sulphur: F. **Bourion.** The method proposed is described in detail, and its accuracy proved by the results of analyses of sodium tungstate, silicotungstic acid, ytterbium, silicotungstate, and a mixture of silica and tungstic acid.—The triboluminescence of mineral substances: Adrien **Karl.**—The syncytial nature of the intestine of Rhabdocœles: Paul **Hallez.**—The comparative action of simple salt solutions and artificial serums with complex mineral contents on the blood and circulation: C. **Fleig.**—The action of acids on the coagulation of milk by vegetable ferments: C. **Gerber.**—The experimental study of the cutting of twigs for slips: A. **Imbert.**—The study of the bactericidal action of anti-virulent serum on the adventitious germs of vaccine: L. **Camus.**—The transmission of syphilis to the cat: C. **Levaditi** and T. **Yamanouchi.**—The different levels of alluvium at the confluence of the Yonne and the Cure: Paul **Lemoine.**—Two causes of error in experiments on fluorescein: F. **Dienert.** A fluorescent substance occurs naturally in certain waters, and this may cause difficulty when fluorescein has been used to trace the passage of underground water. The added dye may often travel very slowly, and by its appearance cause confusion when a second experiment is being carried out in the same district.—The temperature of the thermal waters of the eastern Pyrenees: O. **Mengel.**

DIARY OF SOCIETIES.

THURSDAY, JUNE 4.

ROYAL SOCIETY, at 4.30.—On the Aberration of Sloped Lenses and on their Adaptation to Telescopes of Unequal Magnifying Power in Perpendicular Directions: Lord Rayleigh, O.M., Pres. R.S.—The Optical Constants of Gypsum at Different Temperatures, and the Mitscherlich Experiment: Dr. A. E. H. Tutton, F.R.S.—On the Viscosity of Ice: R. M. Deeley.—The Effect of Temperature on the Neutralisation-Volume Change for Different Salts at Different Concentrations: Miss Ida Freund.—Note on a New Sounding Machine for Use on Lakes and Rivers without a Boat: Prof. E. J. Garwood.—The Electrical Qualities of Porcelain, with Special Reference to Dielectric Losses: H. F. Haworth.—On the Decay of the Radium Emanation when Dissolved in Water: R. B. Moore.

ROYAL INSTITUTION, at 3.—The Chemistry of Photography: Dr. Alexander Scott, F.R.S.

LINNEAN SOCIETY, at 8.—Note on the Spicules of *Chirodota geminifera*, Dendy and Hindle: Prof. A. Dendy, F.R.S.—Two New Fungus Diseases: E. S. Salmon.—The Caryophyllaceæ of Tibet: F. N. Williams.—Polychæta of the Indian Ocean: F. A. Potts.—The Stylasterina of the Indian Ocean: Dr. S. J. Hickson, F.R.S., and Miss Helen M. England.—A Contribution to the Mycology of South Africa: W. N. Cheesman and T. Gibbs.—*Exhibits*: Drawings prepared to illustrate Descourtilz's "Ornithologie brésilienne": C. E. Salmon.—Lantern-slides of the Life-history of a Wood-boring Wasp: F. Enock.

INSTITUTION OF MINING ENGINEERS, at 11 a.m.—Presidential Address by C. E. Rhodes.—The Mineral Resources of Trinidad: J. Cadman.—The Occurrence of Fluorspar in Derbyshire: C. B. Wedd and G. C. Drabble.—Calcining-kilns: G. Jones.—Cobalt and Northern Ontario: J. B. Tyrrell.

CHEMICAL SOCIETY, at 8.30.—Condensation Products from Pinene Aminodicarboxylic Acid: W. Godden.—A Delicate Test for Bromides alone, or in Solution with Chlorides: J. S. Jamieson.—Experiments on the Synthesis of 1-Methylcyclohexylidene-4-acetic Acid: W. H. Perkin and W. J. Pope.—The Triazo-group. Part iv., Allyl Azoimide: M. O. Forster and H. E. Fierz.

FRIDAY, JUNE 5.

ROYAL INSTITUTION, at 9.—The Nadir of Temperature and Allied Problems: Sir James Dewar, F.R.S.

INSTITUTION OF MINING ENGINEERS, at 11 a.m.—Winding-engine Tests, with Notes and Suggestions on the Design and Testing of Plant: S. L. Thacker.—The Utilisation of Sewage for the Production of Crude Oil and Ammonia: M. F. Purcell.—The Oil Prospects of Central British South Africa: Dr. C. Sandberg.—Oil-mining: D. M. Chambers.—Mining in the Boundary District of British Columbia: F. Keffer.

TUESDAY, JUNE 9.

FARADAY SOCIETY, at 8.—The Utilisation of Atmospheric Nitrogen in the Production of Calcium Cyanamide and its Use in Agriculture and Chemistry: Dr. R. A. Frank.

THURSDAY, JUNE 11.

MATHEMATICAL SOCIETY, at 5.30.

FRIDAY, JUNE 12.

ROYAL ASTRONOMICAL SOCIETY, at 5.

ARISTOTELIAN SOCIETY (at Cambridge).—Symposium: The Nature of Mental Activity: Profs. S. Alexander, James Ward, Carveth Read, and G. F. Stout.

PHYSICAL SOCIETY, at 8.—Experiments on a Directive System of Wireless Telegraphy: Messrs. Bellini and Tosi.—On the Lateral Vibration and Deflection of Clamped Directed Bars: Dr. Morrow.—On the Resistance of a Conductor of Uniform Thickness whose Breadth Suddenly Changes, and on the Shapes of the Stream-lines: Prof. Lees.—On the Self-inductance of Two Parallel Wires: Dr. Nicholson.—On Homogeneous Secondary Radiation: Dr. Barkla and Mr. Sadler.—Notes on the Motion of a Corpuscle and on Cloud Formation: Prof. Morton.

GEOLOGISTS' ASSOCIATION, at 8.—Origin of Mountain Tarns: Prof. E. J. Garwood.

CONTENTS.