

polarisation of the rays from lithium, sodium, and potassium flames, and also the rays from sparks between magnesium electrodes, was proved. Sparks between electrodes of carbon, aluminium, mercury, zinc, bismuth, and iron showed no trace of polarisation with the same Savart analyser.—New cadmium lamp for the production of interference fringes, by M. Maurice Hamy. An improvement on the cadmium tubes used by Michelson in his determinations of the relations between the wave-lengths of light and the metre. No electrodes are carried through the glass, the ends being enclosed by brass caps with graphite packing, and the tube in use being kept at about 350°. The tubes will stand over twenty hours' use without losing any of their brilliancy.—Researches on nickel steels: metrological properties, by M. C. E. Guillaume. The remarkable property of some nickel steels of having a coefficient of expansion nearly equal to zero, naturally suggested the use of these alloys in the construction of measuring instruments. With a view of seeing how far their mechanical properties are suitable, a series of alloys containing from 5 to 45 per cent. of nickel was studied as regards densities and elastic properties.—On the nature of the several species of radiations produced by bodies under the influence of light, by M. Gustave Le Bon.—An induction oscillograph, by M. H. Abraham.—On the variation of the electric state of high regions of the atmosphere in fine weather, by M. G. Le Cadet. The electric field is weaker at altitudes above 1500 metres than on the surface of the earth.—On a new oxide of phosphorus, by M. A. Besson. Although PII_3 does not react upon pure $POCl_3$ at any temperature below the boiling-point of the latter, a reaction takes place if a little HBr is also present with the formation of a lower oxide of phosphorus, apparently P_2O . The same substance is obtained by heating $POCl_3$ and PH_4Br together in a sealed tube at 50°. The new oxide forms a yellowish-red powder, not changed by heating to 100°. The formula was deduced from the analysis of the powder, no evidence being produced, however, to show that this consists of one oxide only.—On metastannyl chloride, by M. R. Engel.—The action of a high temperature upon the sulphides of copper, bismuth, silver, tin, nickel, and cobalt, by M. A. Mourlot. At the temperature of the electric furnace, cupric sulphide is reduced to cuprous sulphide and metallic copper, bismuth and silver sulphides to the metals, tin sulphide to the stannous salt, nickel sulphide to a sub-sulphide Ni_2S . Cobalt sulphide does not give a corresponding salt.—Combinations of ammonia gas and methylamine with the haloid salts of lithium, by M. J. Bonnefoi.—Action of gallic and tannic acids upon some alkaloids, by M. Echsner de Coninck.—Preparation of sodium carbide and sodium acetylide in the pure state, by M. Camille Matignon.—Observations concerning the temperature of freezing of milk, by M. J. Winter. A reply to MM. Bordas and Génin.—On the non-identity of lipases of different origins, by M. Hanriot.—Two preparations of lipase, the one from blood serum, the other from the pancreas of the dog, showed marked differences in their saponifying action upon butyric under similar conditions.—Some properties of the ferment causing the decolorisation of wines, by M. P. Cazeneuve. It has been previously shown that the cause of decolorisation of wine (*la casse*) is an oxidising ferment, the action of which is completely prevented by the addition of a small quantity of sulphurous acid to the wine. In the present communication the action of this sulphurous acid is shown to be due to a specific action upon the oxydase, and not merely to its reducing action, since a much larger amount of formaldehyde did not prevent decolorisation.—On a new method of obtaining the essential perfume of flowers, by M. Jacques Passy.—Researches on the development of the archegonium in the Muscineæ, by M. L. A. Gayot.—The law of formation of the transversal valleys in the Eastern Alps, by M. Maurice Lugeon.—The influence of franklinisation upon the singing voice, by MM. A. Moutier and Granier.—The action of currents of high frequency upon the virulence of the streptococcus, by M. Louis Dubois. Cultures of streptococcus showed a marked diminution in virulence after being repeatedly exposed to the effects of a high frequency current.—Action of the X-rays upon the heart, by MM. Gaston Seguy and F. Quéniasset. Prolonged exposure to the X-rays has in several cases caused violent and irregular palpitation of the heart.—On the actinomycotic form of the tuberculosis bacillus, by M. M. V. Babes and C. Levaditi.—Note on the grouping of the stars, by M. Delauney.—On an improvement for the production of acetylene from calcium carbide, by M. Lechappe.

DIARY OF SOCIETIES.

THURSDAY, APRIL 15.

LINNEAN SOCIETY, at 8.—On some New Irish Crustacea: A. O. Walker.—On Desmids from Singapore: W. and G. S. West.—Exhibition: Plants collected during Two Years' Residence in Franz Josef Land: H. Fisher.

GEOLOGISTS' ASSOCIATION (Charing Cross, S.E.R.), at 4.30.—Long Excursion to Walmer, St. Margaret's, Dover, Folkestone, and Romney Marsh. Directors: George Dowker, W. F. Gwinnell, Dr. A. W. Rowe, and C. Davies Sherborn.

TUESDAY, APRIL 20.

ROYAL PHOTOGRAPHIC SOCIETY, at 8.

ROYAL VICTORIA HALL, at 8.30.—Africa up to Date: Prof. B. J. Malden.

WEDNESDAY, APRIL 21.

ROYAL METEOROLOGICAL SOCIETY, at 7.30.—The Relation between Cold Periods and Anticyclonic Conditions of Weather in England during Winter: W. H. Dines.—Sunspot Influence on the Weather of Western Europe; A. B. MacDowall.—The Use of Kites to obtain Meteorological Records in the Upper Air at Blue Hill Observatory, Mass., U.S.A.; A. Lawrence Rotch.

ROYAL MICROSCOPICAL SOCIETY, at 8.—Exhibition of Microscopical Entomological Specimens by F. Enoch.

THURSDAY, APRIL 22.

INSTITUTION OF ELECTRICAL ENGINEERS, at 8.—Recent Developments in Electric Traction Appliances: A. K. Baylor. (Continuation of Discussion.)

CAMERA CLUB, at 8.15.—Peeps into Nature's Secrets: R. Kearton.

SATURDAY, APRIL 24.

ROYAL BOTANIC SOCIETY, at 4.

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