

the above rats were rather less than those which we should judge to be curative, but in four cases the results were entirely negative.

PARIS.

Academy of Sciences, October 5.—M. Émile Picard in the chair.—A recent change in the aspect of the comet 1908c (Morehouse-Borrelly): G. **Bigourdan**. On September 30 the comet possessed a long visible tail, directed from the sun, and at least 15' long. On October 1 this tail had disappeared, and the head of the comet also appeared less brilliant. Traces of a tail were noted on October 3.—The micro-organisms of intestinal putrefaction: Elie **Metchnikoff**. After reviewing the recent work on the nature and functions of the bacteria found in the normal human intestine, the author regards it as certain that the digestive tube of man contains three species of putrefactive organisms. They occur, not only in the form of spores, but also in their vegetative state of rods. The author is of opinion that the products formed by these bacteria act as poisons, and have a pathogenic rôle. These poisons pass through a porcelain filter, and resist the action of boiling water.—Observations of the grey tropical spot of Jupiter: José Comas **Solà**.—The convergence of continued fractions: E. **Nörlund**.—Directed waves in wireless telegraphy and the investigation of syntony: M. **Turpain**. A reclamation of priority as regards the work of MM. Bellini and Tosi and M. Slaby.—Studies on the association in series and in parallel of electrolytic detectors: M. **Jégou**. The combination of two or more electrolytic detectors in series causes a loss in sensibility, the arrangement being always less sensitive than any one of the detectors used alone. The arrangement in parallel may give results which are practically useful.—The analysis of the non-liquefiable gases in liquid air: F. **Bordas** and M. **Touplain**. The apparatus described by the author in a preceding paper for the investigation of the small quantities of gases contained in minerals has been modified to analyse the gases which escape liquefaction during the fractional distillation of liquid air. The gases used were supplied by M. Claude, and were submitted to fractional absorption by charcoal cooled to different temperatures. The spectrum of the mixture of neon and helium thus obtained is given and compared with Baly's figures.—Size of the molecules and charge of the electron: Jean **Perrin**.—The microchemical reactions of arsenic applicable in legal medicine: G. **Denigès**. The drop of the liquid containing the arsenic in the form of an arsenate is evaporated to dryness on the microscope slide, and then treated with the reagent (silver nitrate or magnesia mixture), with certain precautions described. Characteristic crystals are obtained in this way.—The active pinonic and pinic acids: Ph. **Barbier** and V. **Grignard**. The pinenes employed in this investigation were strongly active, and the corresponding acids obtained by oxidation were also strongly active in rotatory power.—The estimation of succinic acid in wines and in other fermented liquids in the presence of fixed acids: Emm. **Pozzi-Escot**.—The effect of dialysis on the ferments from plant juices: C. **Gerber**.—A young giraffe from eastern Soudan recently arrived at the museum menagerie: E. L. **Trouessart**.—A hydrological law of Minard and Belgrand: E. **Maillet**. The author's measurements lead to a slight modification of this law.

DIARY OF SOCIETIES.

FRIDAY, OCTOBER 16.

INSTITUTION OF MECHANICAL ENGINEERS, at 8.—Repairs, Renewals, Deterioration and Depreciation of Workshop Plant and Machinery: J. E. Darbishire.

WEDNESDAY, OCTOBER 21.

ROYAL MICROSCOPICAL SOCIETY, at 8.—The Mouth Parts of the Nemocestera and their Relation to the other Families in Diptera; Corrections and Additions to the Paper published in 1904: W. Wesché.—(1) On the Resolution of Periodic Structures; (2) An Auxiliary Illuminating Apparatus: E. M. Nelson.

ENTOMOLOGICAL SOCIETY, at 8.—On Diapause Resemblances in Insects; a Reply to Mr. G. A. K. Marshall: Dr. F. A. Dixey.

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THURSDAY, OCTOBER 22.

CHEMICAL SOCIETY, at 8.30.—The Passage of Hydrogen through a Palladium Septum, and the Pressure which it produces: D. Tsakalotos.—The Relationship of Colour and Fluorescence to Constitution, Part ii., Rhodamines of Mellitic Acid: O. Silberrad and C. S. Roy.—Constitution of the Fluorescences of Mellitic and Pyromellitic Acid: O. Silberrad.—A New Form of Gas Burette: A. E. Hill.—A Molecular Compound of Trinitroacetaminophenol and β -Naphthol: R. Meldola and J. G. Hay.—Reduction Products of Azoxybenzene, Preliminary Notice: L. H. Berry.—Constitution of the Salts of the Phthaleins, and the Cause of Colour in the Triphenylmethane Series: A. G. Green.—Chlorination of β -Nitraniline: B. Flürscheim.—Relation between Absorption Spectra and Chemical Constitution, Part x., Unsaturated Acids of the Benzene Series: E. C. C. Baly and K. Schaefer.—Condensations with Monochloromethyl Ether, Part i., Condensation of Monochloromethyl Ether with Ethyl Malonate and Ethyl Isopropyl Malonate: J. L. Simonsen.—Relation between Chemical Constitution and Physiological Action in Certain Substituted Aminoalkylesters: F. L. Pyman.—Effect of Constitution on the Optical Rotatory Power of Optically Active Nitrogen Compounds, Part iii.: R. W. Everatt and H. O. Jones.

FRIDAY, OCTOBER 23.

PHYSICAL SOCIETY (National Physical Laboratory), at 3.30.—Demonstrations of Work in Progress in the Laboratory.

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