SOCIETIES AND ACADEMIES.

PARIS.

Academy of Sciences, July 24.—M. Troost in the chair.—On the total eclipse of August 30: M. **Janssen.** Observations will be taken at Alcocebre, near Valencia, in Spain.—On a simple case from which can be easily calculated the mutual action of consecutive rings constituting a tube, and on the influence of this mutual action on the propagation of liquid waves in this tube: J. **Boussinesq.**—On the nature of the hydrocyanic glucoside of the black elder: L. **Guignard** and J. **Houdas.** The bruised leaves were macerated with water for twenty-four hours at a temperature of 25° C.; the liquid gave a distillate from which semicarbazide separated a crystalline precipitate, identical with benzaldehyde semicarbazide. This result, together with the formation of hydrocyanic acid, shows that the elder leaf contains amygdalin.—The catalytic decomposition of monochlor-derivatives of methane hydrocarbons in contact with anhydrous metallic chlorides: Paul **Sabatier** and A. **Mailhe.** The chlorides of nickel, cobalt, iron, cadmium, lead, and barium, at a temperature of about 300° C., readily decompose the fatty alkyl chlorides, giving hydrochloric acid and the corresponding ethylene. The reaction does not take place with methyl chloride, but ethyl, propyl, isobutyl, and isoamyl chlorides readily decompose under these conditions, barium chloride being the most convenient catalytic agent.—The convergence of rational fractions: H. **Padé.**—Experimental researches on the effect of membranes in liquid chains: M. **Chanoz.** The effect of the membrane on the observed electromotive force may be provisionally explained by the formation at the expense of the electrolyte of a double electric layer in contact with the membrane.—The hysteresis of magnetisation of pyrrhotine: Pierre **Weiss.**—On a dihedral stereoscope of large field, with bisecting mirror: Léon **Pigeon.**—On fluorescence: C. **Camichel.** An experimental proof that the coefficient of absorption of a fluorescent body does not vary at the moment of fluorescence, and that the intensity of the light emitted by the fluorescence is proportional to the intensity of the exciting light.—The influence of water vapour on the reduction of carbon dioxide by carbon: O. **Boudouard.** The reduction of carbon dioxide by carbon at temperatures between 650° C. and 1000° C. is practically unaffected by the presence of water vapour, the state of equilibrium being nearly identical whether the gases are dry or moist.—On an extension to oxide of zinc of a method of reproduction of silicates of potassium and other bases: A. **Duboin.**—On a sub-iodide of phosphorus and the part played by this body in the allotropic transformation of phosphorus: R. **Boulouch.** The sub-iodide is produced by the action of sunlight on a solution of iodine and phosphorus in carbon disulphide; it is formed as a precipitate, being insoluble in carbon disulphide, and has the composition P_4I. It is decomposed by dilute potash solution, losing its iodine and apparently forming P_4OH.—On a potassium iridiochloronitrite: L. **Quennessen.**—The action of sodium sulphite upon ethanal: MM. **Seyewetz** and **Bardin.** Under certain conditions, details of which are given, crotonic aldehyde is formed in this reaction, the yield (40 per cent.) being sufficiently good to make this a preparative method.—On sparteine: the hydrates of methyl-, dimethyl-, and trimethylsparteine: Charles **Moureu** and Amand **Valeur.**—On gentiine: Georges **Tanret.** Gentiine is the glucoside accompanying gentiopicrin. Hydrolysed with dilute sulphuric acid, gentienine, glucose, and xylose are formed. It is noteworthy that this is the first known glucoside which gives xylose amongst its products of hydrolysis.—The chemical equilibrium of the system: ammonia gas, isoamylamine chlorhydrate: Félix **Bidet.** Pressures are given both for the direct and inverse reaction at −23°, −9°, −5°, 0°, and 16°, the concordance between the two sets of observations being quite satisfactory.—On the regeneration of the bruised radicle: P. **Ledoux.** There is no regeneration of the parts cut, and in the case of the lateral roots there are other anatomical differences.—On the shrimps of the genus Caricyphus arising from the collections of the Prince of Monaco: H. **Coutière.**—On the growth in weight of the chicken: Mlle. M. **Stefanowska.** Curves of growth are given for both sexes; there is a point of inflection in the curves for the male when it has attained 77 per cent. of its maximum value, and for the female at 21 per cent. The results of the observations are expressed empirically in two hyperbolas.—Experiments on the mechanical washing of the blood: Ch. **Répin.**—Intra-organic combustions measured by the respiratory exchanges as affected by residence at an altitude of 4350 metres: G. **Kuss.** These observations were carried out on several subjects at the summit of Mt. Blanc. There were seven persons under experiment; they stayed at the observatory on the summit from four to ten days, their respiratory coefficients being determined several times daily. Both before and after their stay on Mt. Blanc observations were made at Chamonix (1065 metres) and at Angicourt (100 metres). The conclusions drawn from the whole of the experiments are that the respiratory exchanges are not sensibly modified by a prolonged stay at great altitudes, and a slight attack of mountain sickness is also without influence on the results.—On the presence of poison in the eggs of bees: C. **Phisalix.** The eggs of bees contain a small amount of poison of the same nature as that present in the adult bee. Each egg contains about 0·001 mgr. of the venom, and as each egg weighs about 0·15 mgr. it follows that the toxic substances present amount to about 1/150th part of its weight.—On the production of mechanical work by the adductor muscles of the Acephalæ: F. **Marceau.**—On the structure of the muscles of the mantle of cephalopods with respect to their mode of contraction: F. **Marceau.**—The germination and growth of the artificial cell: Stéphane **Leduc.**—The study of the diaphragm by means of orthodiascopy: H. **Guilleminot.**—The general movements of the atmosphere in winter: Paul **Garrigou-Lagrange.**

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