

fication of the Wollaston method of determination for relations of light-refraction, by F. Kohlrausch.—On the setting of an object in the total-reflectometer, by the same.—On the tensions of saturated mercury-vapour at low temperatures, by E. B. Hagen.—On determination of the constants of internal friction of gases and liquids, by means of oscillating discs, by L. Grossmann.—Determination of the friction of liquids by Maxwell's method, by Th. S. Schmidt.—Researches on the volume-constitution of liquid compounds, by H. Schröder.—On the phosphates of thallium and lithium, by C. Rammelsberg.—On potassium-dithallium-chloride, by the same.—On the electricity of flames (corrections), by J. Elster and H. Geitel.

Atti della R. Accademia dei Lincei. Transunti, vol. vi. fasc. 13.—On Italian emigration in 1881 compared with that of the five previous years, and with the emigration from other States of Europe, by S. Bodie.

SOCIETIES AND ACADEMIES
LONDON

Royal Horticultural Society, July 25.—Sir J. D. Hooker in the chair.—*Hybrid Tacsonia*: Dr. Masters exhibited a blossom of a hybrid between *T. exoniensis* (itself a hybrid) and *Vochsiemi*.—*Rhododendron camellii* *florum*: Mr. Mangles exhibited a spray of this late-flowering species, which resembled a tea in flower. It bore only one flower instead of two together, as described by Hooker; and he suggested it might be identical with *R. sparsiflorum*, Booth, of Bhotan. In foliage it agrees with *R. Maddenii*.—*Hollyhock disease*: Mr. W. G. Smith gave an account of his planting healthy seeds of the hollyhock and others affected with Puccinia. He planted twenty tainted seeds, one of two only which germinated, survived. This one appears to be quite unaffected. Of fifty healthy seeds, all germinated. After the third week, leaves of common mallow diseased with Puccinia were scattered amongst them. In less than a week forty-six of the seedlings died of the disease.—*Rhododendron hybrids*: Mr. Veitch sent blossoms of seedlings of a hybrid, to show interesting deviations, a slightly double flower having been artificially "self-fertilised," twenty seedlings were raised from it. Of these five have blossomed, as follows: a deep rose, a double white, a semi-double yellow, a salmon, and a semi-double rose. The remarkable features about them are that white crossed by orange gives pink, the yellow being eliminated, and that a rudimentary calyx appears on these seedlings, *R. Jasminiflorum*, one of the original parents, having none.—Mr. Henslow remarked on the general tendency to suppress a calyx in flowers, which are small and massed together, as in Rubiaceæ, Caprifoliaceæ, Umbellifereæ, &c., and suggested that its re-appearance was correlated to the enlarged corolla, and less "massing" of the truss than occurs in *R. Jasminiflorum*.

PARIS

Academy of Sciences, July 31.—M. Jamin in the chair.—The following papers were read:—On the period of variable state which precedes the régime of detonation, and on the conditions of establishment of the explosive wave, by MM. Berthelot and Vieille. They recorded on a rotating cylinder, the spark causing the initial inflammation at the entrance of the tube, and the displacement of a very light piston moving freely in the tube at the other end. They study the velocities, the corresponding pressures, and the limits of detonation.—Additional note on the rapid solution of the problem of Kepler, by M. Zenger.—Auxiliary tables for calculating the true anomaly of planets, by the same.—On some theorems of electricity, demonstrated in an inexact way in didactic works, by M. Machai.—On the longitudinal vibrations of elastic wires whose ends are submitted to any strains, by MM. Sebert and Hugoniot.—On the electric resistance of glass at low temperatures, by M. Fousserreau. Using ordinary glass with base of soda and lime, Bohemian glass and crystal, the electric conductivity was found to rise rapidly with the temperature. The method is described, and formulæ are given.—On the flow of sound in pipes, by M. Neyreneuf. With a sensitive flame, from a burner like the Bunsen, but having, instead of the lower air holes, one small lateral orifice at about two-thirds of the height, he measured the intensity of a sound (from strokes of a bell) that had traversed tubes of different length and diameter, watching at what distance from the mouth of the tube the flame became insensible. He obtains a formula representing the law.—On the heat of dissolution of some mixtures, by M. Chroustchoff.—Action of ammonia on oxide of copper, by M. Maumené.—On

the composition of *vins de marc*, by M. Girard. This name he applies to wines from fermentation of sugar in presence of the residua of vintage. He says they have a pretty regular composition, and have alimentary and hygienic qualities equivalent to two-thirds to half those of ordinary wines.—On the ethers of glycol, C₂₂H₁₄O₂, by M. Rousseau.—Preparations of acetylcyanacetic ether and some of its metallic derivatives, by MM. Haller and Held.—On the conditions of formation of rosanilines, by MM. Rosenstiehl and Gerber.—On a new use of electrolysis in dyeing and printing, by M. Goppelsröder. For example, he impregnates tissues or paper with an aqueous solution of chlorhydrate of aniline, puts it on a non-attackable metal plate, which he connects with one pole of a battery or small dynamo. On the tissue or paper is placed a second metal plate having a design in relief and joined to the other pole; on pressure and passage of the current the design is reproduced. A modification of the method gives chemical discharge of colour. The current, again, is used to prepare vats of indigo, aniline black, &c.; the hydrogen which arises at the negative pole being utilised. It is also used to prevent oxidation of colours in printing.—On the formation and decomposition of acetanilide, by M. Menschutkin.—On the products of distillation of colophony, by M. Renard.—On *Crenothrix Kühniana* (Rabenhorst), cause of infection of the waters of Lille, by M. Giard. This gives an iron red scum in the water of the Emmerin springs supplying the town. The evil has been very pronounced this spring. Rains bring it on; engaging these small organisms, that quickly develop in the moist earth prepared by dejections from distilleries, &c.—Structure of the nervous systems of molluscs, by M. Viguel.—On the male sexual organs and the Cuvier organs of Holothurians, by M. Jourdain.—Researches on the production of monstres, in the hen's egg, by means of slow incubation, by M. Dareste.—On sexuality in the ordinary system (*O. Edulis*), and in the Portuguese system (*O. Angulata*); Artificial fecundation of the latter, by M. Bouchon-Brandely.—On the properties of antiseptics, and volatile products of putrefaction, by M. Le Bon. The disinfectant power of any antiseptic is weaker the older the putrefaction. The strongest disinfectants are permanganate of potash, chloride of lime, sulphate of iron acidified with acetic acid, carbolic acid, and the glyceroborates of sodium and potassium. There is no parallelism between disinfectant action of an antiseptic and its action on microbes; nor between the power of preventing putrefaction and that of stopping it when it has begun. Except a very few substances, strongly poisonous (such as bichloride of mercury), most antiseptics, and notably carbolic acid, have very little action on bacteria. There is no parallelism between the virulent power of a substance in putrefaction and the toxical power of volatile compounds liberated from it. The volatile alkaloids from advanced putrefaction are very poisonous. The air of cemeteries may be very dangerous.—On an observation of diffuse lightning, by M. Rousseau.

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