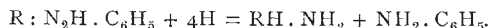


theory of dissociation, by M. G. Chaperon. It is argued that the theory of dissociation may be expressed with simplicity by means of certain cycles, which are easily formed, if the possibility be admitted of separating at a constant temperature several mixed gases or vapours without the expenditure of convertible labour or of heat.—On the conjugation of the Paramécia, by M. E. Maupas. Fresh observations on *Paramecium caudatum* have led the author to the determination of a fact of great physiological importance, which had hitherto escaped his notice, and which seems to foreshadow in these organisms the fecundating processes of the higher animals.—On the family of the Polyclinians, by M. Lahille. The Polyclinians of Roscoff—studied, for the first time, in 1872 and 1873, by M. Giard—are here divided into two distinct families—Polyclinidæ and Aplididæ.—On the affinities of the Eocene ferns of West France and Saxony, by M. Louis Crié. The already-determined affinities of the Tertiary flora of these two regions are here considerably enlarged by a comparative study of their respective ferns.—Note on the telluric currents, by M. J. J. Landerer. The author's further observations on meteorological phenomena connected with electricity lead to the general inference that the great telluric current of the globe has its origin in the difference of the negative potentials. The constancy and amplitude of the régimes of the winds whence it results insure both its normal direction and permanence.—On the discovery made in Belgium of a grave contemporary with the mammoth and rhinoceros, by M. Nadailac. In a cave recently explored by MM. Marcel de Puydt and Sohest near Spy, in the province of Namur, were discovered two skulls of the Neanderthal type associated with the remains of *Rhinoceros tichorhinus* and *Elephas antiquus* (?). It thus appears that the Neanderthal race had already penetrated to the Meuse valley in the remotest times. From the relics found in the undisturbed soil of this cave it appears that they could make flint implements, utilise the tusks of the mammoth, manufacture earthenware baked in the fire, that they buried their dead, and in a word possessed the first rudiments of civilisation.

BERLIN

Chemical Society, July 12.—C. Scheibler, Vice-President, in the chair.—Ferd. Tiemann gave an account of some reactions of substituted amidoximes.—C. Scheibler discussed the important question for the sugar industry, whether a definitely characterised strontium dihydrate ($\text{SrO}, 2\text{H}_2\text{O}$) exists as such, or whether the substance having the percentage composition of a dihydrate is not rather a monohydrate ($\text{SrO}, \text{H}_2\text{O}$) containing a higher hydrate mixed with it. He described his experiments on the action of carbon dioxide on the hydrates of the alkaline earths at different temperatures and containing varying amounts of water. He finds that the facts agree with the latter view.—H. Noerdlinger has studied the oxidation products obtained by the action of nitric acid on myristic acid: the chief products are succinic and adipic acids, besides smaller quantities of glutaric, pimelic, suberic, oxalic, and carbonic acids.—R. J. Friswell and A. G. Green described their researches on the constitution of diazoamidobenzene, from which it is concluded that the constitutional formula $\text{C}_6\text{H}_5 \cdot \text{N} : \text{N} \cdot \text{NH} \cdot \text{C}_6\text{H}_5$ usually assigned to it is the correct one.—M. Rosenfeld described lecture experiments for the demonstration of the volumetric decomposition of hydrochloric acid and of the sublimation of sulphur.—J. Bongartz gave an account of compounds which aldehydes, ketones, and ketonic acids give with thioglycolic and thioacetic acids.—R. Otto discussed the conditions under which the whole of the arsenic can be removed from hydrochloric acid by hydrogen sulphide, and he showed that the last traces of arsenic can be precipitated when the addition is made of a certain quantity of a substance which gives an insoluble precipitate with the hydrogen sulphide. Since crude hydrochloric acid always contains such substances (e.g. ferric chloride, chlorine, &c.), it can readily be freed from arsenic by means of hydrogen sulphide.—P. Klason gave an account of a new method for the estimation of sulphur and of the halogens in organic compounds by burning them in a current of oxygen.—H. Kiliani has isolated the lactone of levulosecarboxylic acid, and has more closely examined the pentoxypimelic acid resulting from the oxidation of dextrosecarboxylic acid, and also its lactone.—E. Fischer has obtained a base named isoglucosamine, $\text{C}_6\text{H}_{13}\text{NO}_5$, by the reduction of phenylglucosazone with zinc dust and acetic acid, aniline and ammonia being simultaneously produced; isoglucosamine is isomeric with glucosamine, and closely resembles the latter in its properties, and probably bears

the same relation to levulose as glucosamine does to dextrose.—J. Tafel described a new method of preparing primary amines, which consists in the action of sodium amalgam and glacial acetic acid on the alcoholic solution of the substances produced from ketones or aldehydes and phenylhydrazine; the reaction takes place according to the equation—



—E. Erlenmeyer offered an explanation of the remarkable isomerism occurring in the cinnamic acid and acrylic acid series.—K. Heumann and Th. Heidlberg are experimenting with a view to ascertain the influence exerted on the shade of certain dyes by the introduction of substitution groups and elements: in the present communication they describe the effect produced by the introduction of chlorine.—W. Staedel and H. Bauer gave an account of their experiments on the methylation of metanitriline; on the demethylation of tertiary aromatic amines, and also on a convenient method of preparing azo-compounds.—G. Ciamician and P. Silber had a paper on the constitution of certain di-substitution derivatives of pyrrolone.—K. Elbs and G. Steinike have studied α -naphthylphenylketone.—W. Kelbe has found ordinary cymene and an aromatic hydrocarbon of the formula C_9H_{12} in rosin-spirit.—R. Anschütz and P. N. Evans have found that antimony pentachloride boils under diminished pressure without appreciable decomposition.—A. G. Ekstrand gave the results of his research on the naphthoic acids; he has prepared and described the various nitro-derivatives.

BOOKS AND PAMPHLETS RECEIVED

"American Journal of Mathematics," vol. viii. No. 3.—"18th and 19th Annual Reports of the Trustees of the Peabody Museum," vol. iii. Nos. 5 and 6 (Cambridge, Mass.).—"Field and Other Experiments Conducted on the Farm and in the Laboratory of Sir J. B. Lawes, June 1886."—"A History of the Theory of Electricity," vol. I., by Isaac Todhunter and Karl Pearson (University Press, Cambridge).—"Industrial and High Art Education in the United States," by J. E. Clarke (Washington).

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