

PARIS.

Academy of Sciences, July 26.—M. A. Chatin in the chair.—The gnomon of the Observatory and the old values of the toise: recovery of the Picard toise, by M. C. Wolf.—Establishment of a uniform state in a pipe of circular section, by M. J. Boussinesq.—On the composition of drainage water, by M. P. P. Dehérain. The formation of nitrate from the nitrogenous stock in the soil, by the action of organisms, is greatly accelerated by moisture; hence the advantage of irrigation where possible.—Researches on the state in which elements other than carbon occur in cast iron and in steel, by M. H. Ad. Carnot and Goutal. A continuation of a previous paper. Manganese combines as far as possible with the sulphur and silicon, any excess being simply dissolved in the iron. No compound of copper or nickel appears to be formed. Chromium is present in combination with both carbon and iron. Tungsten forms a definite compound, Fe_3W ; molybdenum, Fe_3Mo_3 .—On the explanation of an experimental result attributed to a magnetic deviation of the X-rays, by Sir G. G. Stokes. Some remarks on an observation of M. G. de Metz. The X-rays, as a mode of vibration of the ether, are not susceptible of deviation by a magnet; the kathode rays, on the other hand, consisting of a stream of electrified particles, are affected by the magnet. The kathode rays, moreover, are stopped by an air layer, and will only be able to affect a fluorescent screen as the vacuum is increased. The experiments of M. de Metz find a very simple explanation in these facts.—On the toxicity of the perspiration of a healthy man, by M. L. Arloing. Experimental results are given clearly showing the toxic action of normal perspiration.—Remarks on the preceding paper, by M. Berthelot.—On phthalic green, its preparation and constitution, by MM. A. Haller and A. Guyot. The formation of this colouring matter by the action of zinc chloride upon dimethylaniline and phthalyl chloride, is shown to depend upon the presence of phthalyl tetrachloride ($C_6H_5.CCl_2.COCl$) in the latter. Starting with this tetrachloride instead of the dichloride, yields of from 60 to 95 per cent. of the colouring matter are obtained, the constitution of which is different from that assigned to it by its discoverer (Otto Fischer).—On a generalisation of the problem of representation in three dimensions, by M. Émile Cotton.—The natural rotatory dispersion of quartz in the infra-red, by M. R. Dongier. The experimental method used gives results of a higher order of accuracy than any previously recorded; and no formula for the rotatory dispersion of quartz deduced from theoretical considerations will include both the visible spectrum and these results for the infra-red.—On the transformation of the X-rays by metals, by M. G. Sagnac. Different metals exert a selective absorption upon the X-rays. At the same time, the surface layer of the metal emits new rays which are transmitted through mica, aluminium, and black paper with much greater difficulty than the X-rays themselves.—On the veiled appearance of photographs taken with the X-rays, by M. P. Villard. The effect produced is not due to rays which have traversed all obstacles, since it is obtained under really opaque substances. The fluorescence of the surrounding air appears to be the source of the second image, and great difficulties are encountered for this reason in the radiography of a thorax.—Action of the X-rays upon the temperature of animals, by M. L. Lecerclé. The cutaneous and rectal temperatures are both modified in the same direction by the X-rays, the temperature being at first lowered, but afterwards rising.—Researches on the nickel-steels. Expansions at high temperatures, the electrical resistance, by M. C. E. Guillaume. The results obtained for the variation of the electrical resistance with temperature show that this cannot be considered as a simple consequence of the expansion.—On the spectrum of the lines of carbon in fused salts, by M. A. de Gramont.—Relation between the polymerisation of liquid substances and their dissociating power upon electrolytes, by M. Paul Dutoit and Miss E. Aston. An experimental study of the electrical conductivities of some salts dissolved in propionitrile, acetone, methyl-ethyl-acetone, methyl-propyl-acetone, and nitroethane, all of which may be considered as polymerised liquids.—On a new group of amidines, by M. Fernand Muttelet.—On a method of estimating acetylene, generally applicable to hydrocarbons of the formula $R.C:CH$, by M. Chavastelon. By the action of acetylenic hydrocarbons upon an aqueous or alcoholic solution of silver nitrate, two molecules of nitric acid are set free for each molecule of acetylene absorbed. The estimation of such hydro-

carbons is thus reduced to a simple titration of an acid.—On the estimation of lime, aluminium, and iron in mineral phosphates, by M. L. Lindet.—On the absorption of oxygen in the decolorisation of wine, by M. J. Laborde.—Influences exercised by the pathological state of parents upon their descendants, by M. A. Charrin.—Bacteriological study of amberggris, by M. H. Beauregard.—The persistence of the activity of rennet at low or high temperatures, by MM. L. Camus and E. Gley.—On a new form of the buccal apparatus of the Hymenoptera, by M. J. Pérez.—On a new Myxosporidia of the family of Glugeida, by M. Louis Léger.—On the carboniferous ground in the neighbourhood of Mâcon, by M. A. Vaffier.—On the marcasite of Pontpéan, and on the regular grouping of marcasite, pyrites, and galena, constituting pseudomorphs of pyrrhotine, by M. A. Lacroix.—On some new applications of the oscillating current in electric therapeutics, by M. le Dr. G. Apostoli.

PAMPHLETS AND SERIALS RECEIVED.

PAMPHLETS.—Royal Gardens, Kew: Hand-List of Tender Monocotyledons, excluding Orchideae, cultivated in the Royal Gardens, Kew, 1897 (London).—The Mammoth Cave of Kentucky: Dr. Hovey Call (Louisville, Morton).—The Birds of Colorado: W. W. Cooke (Fort Collins, Col.).—Report of the International Meteorological Conference, Paris, 1896 (Byre).
SERIALS.—Journal of the Royal Statistical Society, June (Stanford).—Journal of the Chemical Society, July (Gurney).—Morphologisches Jahrbuch, 25 Band, 2 Heft (Leipzig, Engelmann).—Bulletin of the Natural History Society of New Brunswick, Vol. xv. (St. John).—L'Anthropologie, May and June (Paris, Masson).—Notes from the Leyden Museum, January and April (Leiden).—Natural Science, August (Dent).—Zeitschrift für Physikalische Chemie, xxiii. Band, 3 Heft (Leipzig, Engelmann).

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