

35,000 volts, Kerr's law was found to be correct to within least 1 per cent. The absolute value of the constant for bon bisulphide is 3.7×10^{-7} .—On electrified Röntgen rays, by M. A. Lafay. A verification of results previously published. It was found that it was a matter of indifference, deviating the Röntgen rays, whether they were electrified ore or after traversing the magnetic field.—The action of the ngen rays upon double and triple electric layers, by M. N. tschikoff. The rays discharge the double electric layer very wly, if at all.—On the mechanical action emanating from ookes' tubes, by MM. A. Fontana and A. Umani. A claim priority.—Application of photography by the Röntgen rays to analytical researches on vegetable materials, by M. F. nwez. The adulteration of vegetable products with mineral stances, such as saffron with barium sulphate, is readily detected by the differences in the shadows cast by the X-rays.—A homolinalool and on the constitution of licareol and arhodol, by MM. Ph. Barbier and L. Bouveault.—Action of a sodio-cyanacetates of propyl, butyl, and amyl upon diazozene chloride, by M. G. Favrel. The hydrazones obtained ist in two isomeric modifications, distinguishable by their melting points.—On the diurnal lunar wave and on the secular variation of the barometer, by M. P. Garrigou-Lagrange. The tion of the moon on the atmosphere is well marked. On the nth parallel of latitude, the waves caused by the moon may amount to 1.2 mm. of mercury.—On the principal results of the ascent to a great height of the balloon *Aerophile* (March 22 1895), by MM. G. Hermite and G. Besançon. At a height of ght and a half miles the minimum temperature recorded was 63°C ., or a fall of 1° per 597 feet.—Animal temperatures in the problems of evolution, by M. Quinton. The temperatures prevailing on the globe in the remote past were higher than at present, owing to the gradual cooling of the globe. An animal whose life process was in equilibrium with a given temperature then the temperature commences to fall, must do one of two things—either adapt its chemical and physiological changes to the surrounding temperature, as in the case of the pepsin of a reptile, which will act on a food at temperatures near 0° , or may tend to artificially maintain the temperature of the body, by developing heat. Thus in one group of animals, whose evolution had eased before appreciable cooling had set in, the greater the antiquity the smaller ought to be their power of developing heat. With animals, on the contrary, whose evolution had been prolonged into the cold ages, the reverse would be the case, the body temperature being the lower, the older the animals. Experimental figures confirm these theoretical reductions.

BERLIN.

Physical Society, March 13.—Prof. von Bezold, President, in the chair.—Dr. Lindau, of Munich, spoke on the cooling of gases during their adiabatic expansion, and showed that from this the specific heat of the gases may be determined. In opposition to this view Prof. Planck pointed out that the cooling does not depend solely on specific heat, but also on the extent to which the gas differs from the condition of a perfect gas.—Dr. Orlich demonstrated how every phasic variation of alternating currents may be shown by means of two of Rubens' vibration-galvanometers placed at right-angles to each other. He intends to carry out further experiments in order to see whether the variations are measurable by this method.—Prof. A. König made a communication on the absorption spectra of visual purple from various vertebrates, and on visual yellow, which he had only once been able to investigate as obtained from the visual purple of a human retina, whereas the visual purple of other vertebrates never yielded visual yellow. He hoped to be able to control this single observation, should the chance of so doing present itself.

March 27.—Prof. Warburg, President, in the chair.—Mr. Archenholz reported on his experiments with a view to testing the statements of Le Bon as to black light. He showed how great is the difficulty of completely excluding all lateral light even by using metallic screens, and exhibited photographs in support of this, and came finally to the conclusion that Le Bon's black light is merely a false light. Experiments made with Balmain's material on the permeability of wood and metal by phosphorescent rays were similarly negative.—Prof. Goldstein spoke on the means for increasing the intensity of Röntgen X-rays, of which he mentioned two. The first consists in using the rays

the substances. The second consists in the employment of potassium platinocyanide, which emits a blue light acting very rapidly on photographic plates. Further, a plate had recently been prepared by Siemens and Halske, which gives a clear image of the hand in a few seconds by Röntgen's rays, and finally Kahlbaum has prepared a barium platinocyanide which similarly materially shortens the necessary exposure.

BOOKS, PAMPHLETS, and SERIALS RECEIVED.

BOOKS.—The Treatment of Phthisis: Dr. A. Ransome (Smith, Elder).—Handbook for the Bio-chemical Laboratory: Prof. J. A. Mandel (Chapman).—A Compendium of General Botany: Dr. M. Westermaier (Chapman).—Modern Stone-Cutting and Masonry: J. S. Siebert and F. C. Biggin (Chapman).—Meteorological Observations made at the Adelaide Observatory, &c., 1891, 1892, 1893 (Adelaide).—The Water Supply of the City of New York, 1858-1895: E. Wegmann (Chapman).—The U.S. Public Works: Captain W. M. Black (Chapman).—Cholera in Indian Cantonnments, and how to deal with it: E. H. Hankin (Cambridge, Deighton).—James Clerk Maxwell and Modern Physics: R. T. Glazebrook (Cassell).—An Elementary Treatise on the Calculus for Engineering Students: J. Graham (Spon).—Les Tramways: R. Seguela (Paris, Gauthier-Villars).—Astronomie, Astrophysique, Géodésie, Topographie et Photogrammétrie: G. Towne, 2 Vols. (Paris, Bertaux).

PAMPHLETS.—Medical Inspection of, and Physical Education in, Schools: C. Roberts (Bale).—Weitere Ausführungen über den Bau der Cyanophyceen und Bacterien: Prof. O. Bütschli (Leipzig, Engelmann).—Stonyhurst College Observatory. Results of Meteorological and Magnetical Observations, 1895: Rev. W. Sidgreaves (Clitheroe).—Colonial Origins of New England Senates: F. L. Riley (Baltimore).—Licht-, Elektrizitäts- und X-Strahlen: R. Mewes (Berlin, Krayn).—Die Fortpflanzungs-Geschwindigkeit der Schwerkraftstrahlen: R. Mewes (Berlin, Krayn).

SERIALS.—Proceedings of the Physical Society of London, Vol. xiv. Part 4 (Taylor).—Journal of Anatomy and Physiology, April (Griffin).—Royal Natural History, Part 30 (Warne).—Journal of the Chemical Society, April (Gurney).—Journal of the Institution of Electrical Engineers, April (Spon).—Microscopical Studies in Botany, March (Jersey, Hornell).—Mind, April (Williams).—Contributions from the U.S. National Herbarium, Vol. iii. No. 7 (Washington).—American Journal of Mathematics, Vol. xviii. No. 2 (Baltimore).—Internationales Archiv für Ethnographie, Band ix. Heft 2 (Leiden, Brill).

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