

density, about 4.—Contribution to the study of the alkaloids, by M. Oechsner de Coninck. Having in a previous paper described the reaction of potassa on a combination of the iodide of ethyl with nicotine, the author here confirms by a fresh line of observation the relation of nicotine to the pyridic and dipyrindic series.—On some fossil woods found in the Quaternary formations of the Paris basin, by M. Emile Rivière. These specimens were found associated with the animal remains already frequently described by the author. A microscopic study has enabled him to determine three different vegetable species: Palm, Cedroxylon, and Taxodium. The last-mentioned was especially abundant in the Miocene epoch, and appears to be older than the non-fossilized specimens from time to time discovered in the boggy districts of Switzerland.

## BERLIN.

**Physical Society**, April 22.—Prof. Du Bois-Reymond, President, in the chair.—Dr. Gross explained his theoretical views on the heat of solution of magnetised iron, and showed why, in accordance with these, the heat of solution of magnetised iron must be greater than that of unmagnetised. One result of these views was that a piece of magnetised and unmagnetised iron in a conducting fluid capable of dissolving the iron must give a current; this he has already demonstrated two years ago (see NATURE, vol. xxxi. p. 596). The current in such an element as this flows across the fluid from the magnetised to the unmagnetised pole, and is independent of the nature of the magnetisation. The source of the electric current is in this case, according to the views of the speaker, to be sought for in the loss of specific magnetisation which the molecules of iron undergo as they pass from the solid to the fluid condition. Of the various solutions of salts of iron which were used in these experiments, only neutral salts of ferric oxide were found to yield a result, while the salts of ferrous oxide gave no current. The cause of this is, according to the speaker, that only the ferric salts lead to a solution of the magnets. Dr. Nichols has quite recently carried on some experiments on the heat of solution of magnetised iron, and has obtained the same experimental results, namely that the heat of solution of magnetised iron is greater than that of unmagnetised, although he starts with theoretical views respecting the magnetic potential of solid iron and iron in solution which are diametrically opposed to those of Dr. Gross.—The President exhibited a Bourdon's manometer, and explained its use for the measurement of alterations of blood-pressure in living animals. In connexion with this the President gave a full account of the physical portions of the research which Dr. Grunmach has carried out on the influence of elasticity on the rate of progression of the pulse-wave. The most important points of this research have already been communicated in the report of the last meeting of the Physiological Society on April 15 (NATURE, May 12, p. 48).

**Physiological Society**, April 29.—Prof. Du Bois-Reymond, President, in the chair.—Dr. Onodi, of Buda-Pesth, gave an account of the anatomical investigations which he carried on during his two visits to the Zoological Station at Naples. In the first place he busied himself with the anatomy of the ciliary ganglion, which he examined microscopically in twenty-five different species of Selachians. From what he found in these lower vertebrates, as well as from observations which he had an opportunity of making on the embryos of cartilaginous fishes and chicks, he has come to the conclusion that the ciliary ganglion must be reckoned in with the sympathetic plexus. In addition to the above researches Dr. Onodi was occupied with investigations on the roots of the vagus, and he communicated a number of interesting details on their relations in the Selachians.—Dr. König spoke on Newton's law of colour-mixing, explaining its principle, and illustrating it with the aid of a Newton's colour-chart. He then developed the three propositions which Grassmann has deduced from the Newtonian law, and which, as is well known, are as follows: (1) when two spectral colours are mixed the resulting compound colour is a spectral colour lying between the other two, but mixed with white; (2) when one of the two colours which is being mixed is continuously changing, then the resulting compound colour also changes continuously; (3) similar colours when mixed give similar compound colours. Of these three propositions the first has not been confirmed by later experimental researches, but this does not diminish the value of Newton's law of the mixing of colours: it only becomes necessary to substitute a triangular colour-chart

for the circular one put forward by Newton. The second proposition was fully confirmed by experience. The third proposition, which may also be expressed by saying that the compound colour is independent of the intensity of its separate constituents, was not confirmed by experiments. The speaker has alone, and in conjunction with Herr Breduhn, carried out careful measurements on trichromatic and dichromatic eyes, and has always observed a difference in the compound colour as the result of marked differences in intensity of the compounded colours. The validity of Newton's principle in its general form is therefore considerably shaken by this discovery, and must be confined to narrow limits of variations of intensity.

## BOOKS, PAMPHLETS, and SERIALS RECEIVED.

The Agricultural Pests of India: Surgeon-General E. Balfour (Quaritch).—Schriften der Naturforschenden Gesellschaft in Danzig (Danzig).—The Storage of Electrical Energy: G. Planté (Whittaker).—Manual of Bacteriology: E. M. Crookshank (Lewis).—Chance and Luck: R. A. Proctor (Longmans).—Manual of Scientific Inquiry, 5th edition: edited by Sir R. S. Ball (Eyre and Spottiswoode).—Elementary Trigonometry: Rev. T. Roach (Clarendon Press, Oxford).—Our Bird Allies: T. Wood (S.P.C.K.).—Dandelion Clocks: J. H. Ewing (S.P.C.K.).—Agriculture in some of its Relations with Chemistry, 2 vols.: F. H. Storer (Low).—The Fungus-Hunter's Guide: W. D. Hay (Sonnenschein).—Forestry of West Africa: A. Moloney (Low).—Shores and Alps of Alaska: H. W. Skarr (Low).—The Races of the British Isles (Quaritch).—Rousdon Observatory, vol. iii., Meteorological Observations for the Year 1886: C. E. Peek.—Transactions of the Seismological Society, vol. x. (Yokohama).—New Commercial Plants and Drugs, No. 10: T. Christy.—Quarterly Journal of the Geological Society, vol. xliii., part 2, No. 170 (Longmans).—Bulletin of the American Geographical Society, 1886, No. 3 (New York).

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