

on the other hand, had no perceptible effect upon it, nor yet an alkaline solution of esculine. Mr. Perkin illustrated his interesting communication by a series of most beautiful experiments.

VIENNA

Imperial Academy of Sciences, October 20.—Dr. L. Manol communicated a memoir on chest and head voice, in which he described the condition of the glottis during the production of these two kinds of sounds.

November 3.—Prof. E. Stahlberger transmitted a memoir on the ebb and flow at Fiume.—Dr. Reuss presented a memoir on the Foraminifera of the Septaria clay of Pietzpuhl, containing the determination of the species figured by M. von Schlicht. Pietzpuhl possesses the richest Foraminiferous fauna of any known locality for the Septaria clay; the author has distinguished 164 species and twenty varieties, the total number found in the formation being 244 species.—Dr. C. Jelinek exhibited and explained a new anemometer, constructed for the station at Lesina, by Hipp, of Neuchatel.—Dr. T. R. von Oppolzer communicated a memoir on Winnecke's periodic comet, in which he endeavoured to show that this comet presents no extraordinary anomalies in its movement. This memoir also contained an account of the author's method of calculating disturbances.

November 10.—Prof. J. Gottlieb transmitted a chemical analysis of the Königsbrunnen at Kostreinitz, in Lower Styria, and a memoir by M. A. F. Reibenschuh, containing the analysis of the Johannesquelle, near Stainz, in Merau.—Prof. Loschmidt communicated a continuation of the results obtained by M. A. Wretschko in his researches on the diffusion of gaseous mixtures.

I. R. Geological Institute, Oct. 30.—Baron v. Richthofen, in a letter dated Peking, July 20, gives a notice of his recent geological explorations in China. On the first of January he started from Canton and travelled through the provinces of Kwangtung and Hunan to Hankan, and then, through Hupe, Honan, and Shansi, to Peking. The most important result of this journey is the discovery of the enormous extension of coal-fields and iron-ores in the province of Shansi. The southern half of this province, about 1,500 German square miles, and probably also the northern half, is an almost continuous coalfield, containing anthracite of the best quality, in layers of from twelve to thirty feet in thickness. The anthracite district is much more extensive than that of Pennsylvania, and offers incomparably more favourable conditions for working. Together with the coal, iron ores of very good quality are found in abundance.—M. Th. Fuchs gives a sketch of different discoveries in the tertiary basin of Vienna which he made last summer, in company with M. F. Karrer. The building of the new aqueduct for Vienna has caused denudations near Baden, which prove clearly that the marine clay (Tegel) of Baden overlies the Leytha limestone. Between the Cerithium (Sarmatic) beds and the overlying Congeria beds, they discovered in many localities a thin stratum, which contains the fauna of both these formations mixed, without any sensible difference in the form or size of the various species. M. E. Tietze has explored the Jurassic and Liassic strata in the southern Banat, in the environs of Bersgasyka. He found that large masses of white and red limestones, which belong to the tithonic age, immediately cover the famous Ammonite bed, near Swinitza, which has long been known as belonging to the middle Jurassic formation. Farther down are developed different members of the lias, which contain considerable layers of coal.—M. G. Stache, during the summer, was occupied with the exploration of the central crystalline masses in eastern Tyrol, chiefly in the environs of the Ziller Valley. He brings full evidence that metamorphic stratified rocks, partly even with traces of organic remains, play a considerable part in the composition of the large mountain masses of that country.

GÖTTINGEN

Royal Academy of Sciences, October 19.—M. W. Krause read a paper on the termination of the nerves in the tongue of man; and M. P. Gordan a memoir on the partial differential equations, of which the resultant R satisfies a form of the n^2 degree and a form of the m^2 degree.

November 12.—M. R. Lipschitz communicated contributions to the theory of the reversal of a function system.—A paper was also read by Dr. R. von Willemoes-Suhm on a *Balanoglossus* from the North Sea. This paper contained the description of a

third species of the genus discovered by the author in the Oeresund near Helleback, in Iceland. He names the worm *B. kufferi*, and dredged it up from a depth of 12 to 16 fathoms in a bottom of fine mud.

November 16.—A paper on asymptotic lines, by M. A. Enneper, was read.

BOOKS RECEIVED

ENGLISH.—Use and Limit of the Imagination in Science: Prof. Tyndall (Longmans and Co.).—The Intelligence and Perfectibility of Animals: G. G. Le Roy (Chapman and Hall).—The Wild Garden: W. Robinson (J. Murray).—Lessons in Elementary Physics: Prof. B. Stewart (Macmillan and Co.).—Chemical Problems: T. E. Thorpe (Macmillan and Co.).—The Modern Men of Letters: J. H. Friswell (Hodder and Stoughton).—One Thousand Gems: H. W. Beecher (Hodder and Stoughton).

DIARY

THURSDAY, DECEMBER 15.

ROYAL SOCIETY, at 8.30.—Report on Deep-Sea Researches carried on during the months July-September, 1870, in H.M. Surveying Ship *Porcupine* (conclusion): Dr. Carpenter, F.R.S., and J. Gwyn Jeffreys, F.R.S.—On the Constitution of the Solid Crust of the Earth: Archdeacon Pratt, F.R.S.—Actinometric Observations made at Dehra and Mussoorie, in India: Lieut. Hennessey.

SOCIETY OF ANTIQUARIES, at 8.30.—On the Pre-Christian Cross: Mr. H. M. Westropp.

LINNEAN SOCIETY, at 8.—On Sabadilla from Caracas (*Asagraea officinalis* Link.): A. Ernst.—A letter on the Californian Pitcher-plant (*Darlingtonia*): W. Robinson, F.L.S.

CHEMICAL SOCIETY, at 8.—On some New Derivatives of Coumarin: Mr. W. H. Perkin.

LONDON INSTITUTION, at 7.30.—On Count Rumford and his Philosophical Work: Mr. W. Mattieu Williams.

MONDAY, DECEMBER 19.

LONDON INSTITUTION, at 4.—On Chemical Action: Professor Odling, F.R.S.

TUESDAY, DECEMBER 20.

ANTHROPOLOGICAL SOCIETY, at 8.—Archaic Structures of Cornwall and Devon: Mr. A. L. Lewis.—Objections to the Theory of Natural Selection: Dr. Muirhead.—The Manx of the Isle of Man: Dr. Richard King.—The Anthropology of Lancashire: Dr. Beddoe.

STATISTICAL SOCIETY, at 7.45.—On Wool Supply: Mr. A. Hamilton.

WEDNESDAY, DECEMBER 21.

GEOLOGICAL SOCIETY, at 8.—On the older Metamorphic Rocks and Granite of Banffshire: Mr. T. F. Jamieson.—On Lower Tertiary Deposits recently exposed at Portsmouth: Mr. C. J. A. Meyer.—On the Chalk of the Cliffs from Seaford to Eastbourne, Sussex: Mr. W. Whitaker.—On the Chalk of the Southern Part of Dorset and Devon: Mr. W. Whitaker.

SOCIETY OF ARTS, at 8.—On a Method of Lighting Towns, Factories, or Private Houses by means of Vegetable or Mineral Oils: Mr. Albert Silber.

ROYAL SOCIETY OF LITERATURE, at 8.30.—On a passage in *Othello* (by the late Rev. W. W. Berry): Dr. C. M. Ingleby, For. Sec. R.S.L.—On the Great Seals of William the Conqueror: Mr. Walter De Gray Birch.

THURSDAY, DECEMBER 22.

ROYAL, at 8.30.

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