

sented by Mrs. Mathews; a Common Kestrel (*Tinnunculus alaudarius*), European, presented by Mr. W. W. Hughes; a Rough-legged Buzzard (*Archibuteo lagopus*), European, presented by Lady Bunbury; a Passerine Owl (*Glaucidium passerinum*), European, presented by Mr. T. W. Evans; a Burriel Wild Sheep (*Ovis burriel*) from India; a Suricate (*Suricata senik*) from South Africa; two Beautiful Parrakeets (*Psephotus pulcherrimus*) from Australia, deposited; a Common Rattlesnake (*Crotalus durissus*) from North America, purchased.

SCIENTIFIC SERIALS

American Journal of Science and Arts, February.—Astronomical observations on the atmosphere of the Rocky Mountains made at elevations of from 4,500 to 11,000 feet, in Utah and Wyoming Territories and Colorado, by Prof. Draper.—On dinitroparadibrombenzols, and their derivatives, by Dr. Austen (second paper).—On the orbit of the planet Urda (167), by C. H. F. Peters.—Principles of compensation in chronometers, by J. K. James, M.D.—Notes on the Vespertine strata of Virginia and West Virginia (concluded), by W. M. Fontaine.—On the chemical composition of the flesh of *Hippoglossus americanus*, by R. H. Chittenden.—Notice of Darwin on the effects of cross- and self-fertilisation in the vegetable kingdom, by Asa Gray.—Note on *Microdocus speciosus*, by S. W. Ford.—On water-courses upon Long Island, by Elias Lewis, jun.

Poggendorff's Annalen der Physik und Chemie, No. 12, 1876.—The ball supported on a jet of water, by M. Hagenbach.—On fluorescence, by M. Lommel.—Electromagnetic properties of unclosed electric currents (concluded), by M. Schiller.—The thermomultiplier as a meteorological instrument, by M. Buff.—On the temperature of the electrodes in induction sparks, by M. Herwig.—On an analogy of chromoxide to the oxides of the cerite metals, by M. Wernicke.—On the theory of condensers, by M. Aron.—On the ratio of cross-contraction to longitudinal dilatation in caoutchouc, by M. Röntgen.—On electrical figures in solid insulators, by M. Holtz.—On the work to be done in evacuation of a given space, by M. Koláček.—Contributions to history of natural sciences among the Arabians, by M. Wiedemann.—A historical note on Daniel Bernoulli's gas theory, by M. Berthold. [With this number is issued No. 1 of the *Beiblätter*. It contains twenty-five abstracts of various physical researches that have recently been published.]

THE *Naturforscher* (December, 1876) contains the following papers of interest:—On the action of capillary tubes upon mercury, by E. Villari.—On the influence of water upon the temperature of the soil, by E. Wolny.—On boron, by W. Hampe.—On the determination of the vapour-density of substances having a high boiling-point, by V. Meyer.—On the polarisation of carbon electrodes, by H. Dufour.—On the relation of the organ of sight to the absence or presence of light, by Herr Joseph.—On the age of cells and the protoplasmic currents, by Herr v. Vesque Püttlingen.—On symbiotism (the cohabiting of different species of plants), by A. B. Frank.—On the periodic change in the colour of a *Ursæ Majoris*, by H. J. Klein.—On the dependence of the respiration of plants upon temperature, by Adolf Meyer.—On the frequency of shooting-stars, by J. F. Schmidt.—On the influence of surrounding temperatures upon the circulation of matter in warm-blooded animals, by G. Colasanti.

FROM the *Verhandlungen des naturhistorischen Vereins der preussischen Rheinlande und Westfalens* (32 Jahrg., Part 2) we note the following papers:—Section for geography, geology, mineralogy, and palæontology: on the meteorites of the Natural History Museum of the University of Bonn, by Prof. vom Rath.—On the theoretical conclusions drawn from some observations made in a shaft of 4,000 feet depth at Sperenberg, by Prof. von Lasaulx.—On some fossils from the Neanderthal, by Prof. Schaaffhausen.—On the late volcanic eruption in Iceland and the ashes fallen in Sweden, by Prof. vom Rath.—On the cause of the ice-period, by Dr. Mohr.—On the occurrence of olivine in basalt, by Dr. Mohr.—On the most recent eruptions on the Island of Vulcano and their products, by Prof. vom Rath.—On the systems of volcanic crevasses in Iceland, by Dr. Gurlt.—On an investigation of Westphalian caves, by Prof. Schaaffhausen.—On the occurrence of rock salt in the Keuper formation near Hänigsen, by Dr. Gurlt.—On remains of *Vertebrata* from gravel deposits near Porta (Westphalia), by Herr Banning.—On fulgurites, by Herr v. d. Marck.—On fossil fishes from Sumatra and

from Rinckhore, near Senderhorst, by the same.—On the thermal sources of Oynhausen, by Herr Graëff.—On the origin of and changes in Downs, with special reference to those of the German coasts of the North Sea, by Herr Borggreve.—On the geology of Eastern Transylvania, by Prof. vom Rath. Botanical Section: On dichogamy and the conditions regulating the production of blossoms in plants which bear fruit periodically, by Herr Borggreve.—On the formation of the primordial tube, by Herr Pfeffer.—On the production of high hydrostatical pressure through endosmotic action, by the same.—On the fruit of *Hura crepitans*, by Herr Andrac. Section for Anthropology, Geology, and Anatomy: On the palates of *Ptenoglossa*, by Prof. Troschel.—On a luminous beetle of the *Physodora* family from Java, by Herr Moknike.—On the fertilisation of the ova of *Araneida*, by Herr Bertkau.—On a stone sarcophagus found near Sechtem (on the Cologne-Bonn railway), containing well-preserved red hair of reddish tint, by Prof. Schaaffhausen.—On the various views of different naturalists on the reproduction of eels, by Prof. Troschel.—On the so-called *Cribellum* of L. Koch, by Herr Bertkau.—On some rare and remarkable *Arachnida* of the Rhenish fauna, by the same.—On stone implements and other objects found in the Klusenstein and Martin's Caves, by Prof. Schaaffhausen. Section for Chemistry, Technology, Physics, and Astronomy: On the separation of ethyl-bases by means of oxalic ether, by Prof. Wallach.—On converting amides into bromides, by V. von Richter.—On indium, by the same.—On some experiments with hydrobenzoines, by Herr Zincke.—On an apparatus for measuring very small fractions of time, by Herr Gieseler.—On a new electro-dynamical law, by Prof. Clausius. Physiological Section: On the functions of the spinal cord, by Dr. Frensborg.—On the structure of the tissues of blood-vessels and the inflammation of veins, by Herr Köster.—On santonine poisoning, by Herr Binz.—On the influence of salicylic acid upon the bones, by Herr Koster. The remaining papers are of purely medical interest.

Reale Istituto Lombardo di Scienze e Lettere. Rendiconti, December 28, 1876.—On some differential equations with algebraic integral, by M. Brioschi.—On the electric theory of the radiometer, by M. Ferrini.—On the anti-fermentative action of boric acid, and its application in therapeutics, by M. Polli.—On the *sclerotium oryzae*, a new vegetable parasite which has devastated many rice-fields of Lombardy and the Novarese during the past year, by M. Cattaneo.—Mildella, a new genus, type of new tribes of Polyodiaceæ.—Graeco-Indian studies, by M. Cantor. Relating to geometry, algebra, astronomy; &c.

Morphologisches Jahrbuch, vol. ii, part 3.—On the structure of the skin and dermal sense-organs of Urodela (*Proteus*, *Menopoma*, *Cryptobranchus*, *Salamandra*, *Triton*, *Salamandrina*), by F. Leydig, four plates.—On the metamorphosis of *Echirus*, by W. Salensky, four stages figured.—On the exoskeleton of fishes, by O. Hertwig. Part I, sixty-eight pages, six plates, relating to Siluroids and Accipenseroids. The placoid scales of Selachians, the dermal teeth of Siluroids, and the dermal scutes of Accipenseroids are shown to be homologous.—Contribution to the morphology of the limbs of vertebrates, by Prof. Gegenbaur.—The most ancient form of the carpus and tarsus of Amphibia, by R. Wiedersheim.

SOCIETIES AND ACADEMIES LONDON

Royal Society, February 8.—“On the Transport of Solid and Liquid Particles in Sewer Gases.” By E. Frankland, F.R.S.

The suspension of vast aggregate quantities of solid and liquid particles in our atmosphere is the subject of daily remark. Cloud, fog, and smoke consist of such particles, and I have repeatedly seen at a distance of a few feet abundance of snow-crystals floating in the air, when the atmosphere was apparently perfectly clear and cloudless by placing the eye in shadow and then looking into the sunshine.

Prof. Tyndall has, I conceive, proved that a very large proportion of the suspended particles in the London atmosphere consists of water and other volatile liquid or solid matter by showing that the heat of boiling water is sufficient to dissipate them. That this is the true explanation of the disappearance of such particles by the application of a moderate degree of heat, and that it is not caused by the rarefied air from the heated body ascending and leaving behind the suspended matter, as suggested by Tyndall is, I think, conclusively proved by experiments in which