THE additions to the Zoological Society's Gardens during the past week include six Greek Partridges (*Caccabis saxatilis*) from Persia, Naran River, two Black-headed Partridges (*Caccabis melanocephala*), a Hey's Partridge (*Caccabis heyi*) from Hedyar, near Mecca, presented by Mr. F. M. Burke, Commander S.S. *Ateot*; a Yellow-lored Amazon (*Chrysotis xantholora*) from Central America, purchased.

SCIENTIFIC SERIALS

Poggendorff's Annalen der Physik und Chemie, Ergänzung Band viii., Stück 1.—On the electric conductivity of water and some other bad conductors, by M. Kohlrausch.—The mica-combination of Reusch, and the optical rotatory power of crystals, by M. Sohncke.—On determination of the constants for absorption of light in metallic silver, by M. Wernicke.—The interference of refracted light, by M. Lommel.—The fundamental principles of Edlund's electrodynamics, by M. Chwolson.—Volumetric chemical studies, by M. Ostwald.—On the influence of the funnel-valve on electric spark discharges in air, by M. Holtz.—On an electrical fly-wheel like that of the radiometer, by M. Holtz.—Steam-jet air-pump, by M. Teclu.

Journal de Physique, December.—Measurement of the calorific intensity of the solar radiations and of their absortion by the terrestrial atmosphere, by M. Crova.—On various theories given to explain the movements of Crookes's radiometer (second paper), by M. Lippmann.—On the illumination of transparent and opaque bodies (concluded), by M. Lallemand.

THE *Jahrbuch der k.k. geologischen Reichsanstalt zu Wien* (vol. xxvi. part 2), to which are added Dr. Gust. Tschermak's *Mineralogische Mittheilungen* (vol. vi., part 2), contain the following papers:—Geological survey of the Dutch East Indian Archipelago, by Dr. Schneider.—The saline springs of Galicia, by Mich. Kelb.—Report on the volcanic events during the year 1875, by Dr. C. W. C. Fuchs. Of this we publish a detailed account in our "Notes."—On the green slates of Lower Silesia, by Ernst Kalkowsky.—On beryl from Eisvold, in Norway, by M. Websky.—Chemical analysis of the iodiferous saline springs of Darkau, by E. Ludwig.—On the volcanic formations of the Galapagos Islands, by F. A. Gooch.—On a perfect combination of pyrites and hæmatite crystals, by Dr. C. Hintze.—On some minerals from North-western Silesia, by F. Nenimar.

SOCIETIES AND ACADEMIES

LONDON

Chemical Society, December 18, 1876.—Prof. Abel, F.R.S., president, in the chair.—Prof. W. N. Hartley made a communication entitled "a further study of fluid cavities," in which he described the results of his examination of a large number of topaz and of rock sections, mostly granites and porphyries. The fluid contained in the cavities was almost invariably water, but it was very remarkable that the cavities often took the form of the crystals in which they were contained, and nearly always arranged themselves symmetrically with regard to the faces of the crystal.—A paper by Dr. H. E. Armstrong, F.R.S., on thymoquinone, one on high melting points with special reference to those of metallic salts, part 2, and another on the determination of urea, by Mr. G. Turner, followed this, after which Dr. G. Bischof called attention to the rapid corrosion of the so-called "compo" pipe employed by gas-fitters when used to convey water, especially when exposed alternately to the action of air and water.

Meteorological Society, December 20, 1876.—Mr. H. S. Eaton, M.A., president, in the chair.—Rev. C. C. Chevallier, T. Gordon, and Rev. T. H. Quelch were elected Fellows of the Society.—The following papers were read:—On observations with the psychrometer, by Dr. R. Rubenson (translated from the Swedish, and abridged by Dr. W. Doberck). This paper contains an account of the instructions issued to the Swedish observers in order to obtain trustworthy results from the psychrometer, or dry and wet bulb hygrometer. These instructions, however, do not differ from those followed by English observers at the present time.—Contributions to hygrometry: The wet bulb thermometer, by William Marriott, F.M.S. This paper contains the results of observations made with several wet bulbs in different positions and under different conditions, which were carried on in order to determine what a *wet bulb thermometer should be*. Ten thermometers were used as wet bulbs and three as dry bulbs. With three wet bulbs the water receptacles were placed at different angles; but it was found that the readings were not affected by the position of the water receptacle. Others were used with different thicknesses of muslin and conducting threads; but it was shown that the thermometers with the thinnest muslins always gave the lowest readings. Three pairs of dry and wet bulbs were used, one with a closed water reservoir six inches from the dry bulb, the other two having open reservoirs which were respectively three inches and one inch from the dry bulbs. It was found that the dry bulbs of the two latter read lower than the former in fine dry weather, but when the air was damp and during rain they generally read higher. The wet bulbs of the latter read a little higher than the former; this was mostly the case in damp weather. In conclusion, the author submitted for adoption certain regulations for the management of the dry and wet bulb thermometers, in order to secure comparable results.—Visibility, by the Hon. Ralph Abercromby, F.M.S. Visibility, or unusual clearness and nearness of distant objects, is a very trustworthy prognostic of rain in this and many other countries. The usual explanation that much moisture increases the transparency of the atmosphere is not borne out by observation. In this country great nearness occurs on a clear, brisk day, when hard masses of cloud shade the glare of the sky from crossing direct light sent from distant objects, and make clearness so great as to give the impression of nearness. The kind of rain which immediately follows nearness is in short sharp showers, but unsettled weather often follows later. The synoptic conditions of nearness in this country are either straight isobars or the edge of anticyclones, neither of which are associated with settled weather.—Description of a meteorographic model, a letter from the late Commodore M. F. Maury, Hon. Mem. M.S., to Capt. H. Toynbee, F.R.A.S.

Physical Society, December 16, 1876.—Prof. G. C. Foster, president, in the chair.—The following candidate was elected a member of the Society:—Mr. W. Baily, M.A.—Mr. Crookes described some of the most recent results he has obtained in his experiments on the radiometer, and exhibited many beautiful forms of the apparatus, most of which have been devised with a view to decide on the correct theory of the instrument. We shall refer to the subject of the paper in an early number.—Prof. Dewar exhibited a simple electrometer which he has designed, founded on the discovery of Leipman that the capillary constant is not really independent of the temperature or condition of the surface, but is a function of the electromotive force. If a capillary tube be immersed in mercury, and dilute sulphuric acid be placed in the tube above the mercury, and a current from a Daniell's cell be so passed through the liquids that the mercury forms the negative pole, the column will be depressed to an extent dependent on the diameter of the tube. In making an electrometer, Prof. Dewar has increased the sensitiveness by connecting two vessels of mercury by means of a horizontal glass tube filled with the metal, except that it contains a bubble of dilute acid. The tube must have an internal diameter of two millimetres, and it is essential that it be perfectly clean, uniform in diameter, and horizontal. The instruments exhibited were constructed by Messrs. Tisley and Spiller, and Prof. Dewar showed that it is possible by means of them to measure an electromotive force equal to $\frac{1}{10000}$th of a Daniell's cell; forces capable of decomposing water must be measured by causing two currents to act against each other. The index bubble is brought to zero by uniting the mercury cups by a wire. The apparatus is very convenient, as it requires no preparation and is extremely simple in its action. He then showed an instrument arranged by Mr. Tisley for producing a current by the dropping of mercury from a small orifice into dilute sulphuric acid; if the vessels containing the mercury and the acid be connected by a wire a current is found to traverse it. He then exhibited a manometer suitable for measuring very slight variations of pressure, and he illustrated the use of it for proving Laplace's law that the internal pressure multiplied by the diameter of a soap-bubble is constant. It consists of a U-tube, one arm of which is about 15 inches long, and is bent horizontally and levelled with great care. If the shorter arm be connected with a tube on which a bubble has been blown and the diameter of the bubble be varied, the position of the extremity of the alcohol column will be found to vary in accordance with the above law.

Entomological Society, December 6, 1876.—Sir Sidney Smith Saunders, C.M.G., vice-president, in the chair.—Prof. Eduard Grube, Director of the Zoological Museum of the University of Breslau, and Dr. Katter of Putbus, in the Island of