SIR JOHN LUBBOCK has been elected President of the London Society for the Extension of University Teaching, in succession to Mr. Goschen, M.P., resigned.

MR. GILBERT R. REDGRAVE has been appointed Chief Senior Inspector of Schools and Classes under the Science and Art Department, and Mr. T. B. Shaw, Inspector of the North-Western District, has been promoted to a Senior Inspectorship.

SCIENTIFIC SERIALS.

WE have received two recently issued parts of the *Journal of the Asiatic Society of Bengal* (vol. lxiii. part ii. Nos. 1 and 3) containing, *inter alia*, an important paper by Mr. Lionel de Nicéville (the author of the admirable book on the butterflies of India, Ceylon, and Burma, now approaching completion), on new and little-known butterflies from the Indo-Malayan region, illustrated by five excellent coloured plates, representing species belonging to most of the principal families represented in the district. Among the species figured is a handsome new species of *Stichophthalma* (*S. sparta*) from Manipur, allied to the well-known Chinese *S. howqua*, of Westwood, belonging to a genus allied to the great blue Morphos of South America, and not inferior to some of them in size; a gynandomorphous specimen of the common, but very remarkable, Indian Fritillary, *Argynnis niphe*, L., the female of which mimics the abundant, highly-protected, and much-imitated *Danaus chrysippus*, L.; several species of *Laxita*, Butler, a beautiful genus allied to our Duke of Burgundy Fritillary, but much larger, and with rounded brown wings, generally suffused with crimson on the fore wings, and marked with metallic blue spots beneath; three species of *Papilio*, two of which mimic species of the widely-removed sub-family *Euplœinæ*; and many other interesting species. Several genera, as well as a large number of species, are described as new, and much fresh information is given relative to species already known. Several very useful lists and tables are also included in the paper, relative to the species of *Daphla*, allied to *D. teuta*, Doubleday and Hewitson, and those of the genera *Gerydus*, Boisduval, *Logania*, Distant, &c. When we look at the number of important books and papers that are now constantly issuing from the press on the butterflies of various parts of the British East Indies, it seems strange to remember that thirty years ago almost nothing had been published specially on the subject, except Horsfield and Moore's Catalogue of the Lepidoptera in the East India Company's Museum, and Westwood's "Cabinet of Oriental Entomology."

Memoirs (*Trudy*) *of the St. Petersburg Society of Naturalists*, vol. xxiv. part 1, Zoology and Physiology.—Notes on birds found in the Mediobor Mountains of Podolia, by I. D. Mikhalovsky. Seventy-two species are mentioned.—On the structures and reactions of the cells of the digestive tube of the pupæ of *Musca Cæsaris vomitoriæ*, by N. Kholin, with one plate.—The Natural History Museum of Great Britain, and other zoological institutions of West Europe, by A. Yaschenko.—Report on the cruise of the *Nayezdnik* in the Arctic Ocean in 1893, by N. Knipovitch. Leaving Reval, the cruiser visited the Murman coast, the Dvina and Onega bays of the White Sea, and the west coast of Novaya Zemlya, entering the Matochkin Strait and the Yugorskiy Shar. No less than eighty successful dredgings, down to depths of 190 fathoms, as well as measurements of temperature, were made. The author's remarks on the differences of colour and density of the blue Gulf Stream water, which is easily traced along the Murman coast, and the more so along the coast of Novaya Zemlya, are especially interesting. The colour and the density better delineate the south-east limits of the Gulf Stream current than the differences of temperature which are affected in both the Gulf Stream and the cold current by various local causes. In the bays of the White Sea, M. Knipovitch found in the bottom mud, which has temperatures of one or two degrees below zero, the *Yoldia arctica*, characteristic, as is known, of the Glacial period deposits and the Arctic Seas; while the same has never been found in the Arctic Ocean off the Murman coast, nor in the eastern parts of the Barents's Sea.—Report on the zoological institutions of West Europe, by Prof. K. Sainte Hilaire.—In the *Proceedings* we notice a very interesting report, by A. A. Birulia, on the part played by the phagocytes in the sexual processes with the *Galeodes*, and A. K. Trotsin's report on his zoological journey to the Transcaspian region and Russian Turkestan.

THE *Meteorologische Zeitschrift* for January contains a careful discussion of the rainfall of the Sandwich Islands, by Dr. J. Hann, based chiefly on observations supplied by the Director of the Weather Service at Honolulu. The amount of the rainfall is subject to great fluctuations. At Hilea, Kau (on the south side of Hawaii), 44·5 inches fell in 1886, and of this amount 51 per cent. fell in November. In 1889 the annual fall was only 13·9 inches, or about half as much as in November 1886. At Honolulu the average annual fall is 40 inches. The heaviest falls occur on the windward side of the largest of the islands, that is, on the north-east of Hawaii, and the smallest falls occur on the southern part of Oahu, and the south-west of Maui. The wettest period in almost all the islands is from November to March. The principal exception to this is on the leeward side of the mountains of Hawaii, where more rain falls in summer than in winter.

SOCIETIES AND ACADEMIES.

LONDON

Physical Society, March 8.—Mr. Walter Baily, Vice-President, in the chair.—Mr. Naber exhibited, and shortly described, a new form of gas voltameter. The chief advantages claimed for this instrument are that either the oxygen or the hydrogen can be collected separately, and that the level of the liquid inside and outside the burette can be made the same; thus no correction has to be applied to the volume of the gas on this account. Variations in the temperature and barometric pressure are allowed for by reading an air thermometer which is fixed alongside the burette. The inventor considers that this instrument will compare favourably in accuracy with the copper and silver voltameters now in general use. Prof. S. P. Thompson considered that now so much care had been bestowed on the design of a gas voltameter, this instrument might come into more general use than heretofore.—Dr. Johnstone Stoney, F.R.S., exhibited (1) the local heliostat, (2) an improvement in siderostats. By a local heliostat the author means one which can only be used in places the latitudes of which differ slightly from that of the place for which the instrument was specially constructed. The limits within which the instrument works with sufficient accuracy for ordinary spectroscopic work, are such that one instrument can be used in any place in the British Isles. The heliostat exhibited was a modification of one previously described by the author, which is now in very general use, and it is capable of sending a reflected ray in any direction in, or nearly in, a horizontal plane. In the new instrument the pendulum clock previously used to supply the motive power, is replaced by a balance-wheel clock; this change decreases the cost of the instrument, while it adds to its portability. A tangent screw, worked by a long rod, supplies a slow motion for adjusting the position of the reflected beam, and is of use when examining the spectra of the solar prominences, &c. The instrument is adjusted in the meridian by means of a gnomon and horizontal divided circle which form a sun-dial. This divided circle is so arranged that it is always horizontal when the polar axis is in adjustment, and can therefore be used whatever the latitude of the station at which the observations are being made. In connection with the use of a heliostat in conjunction with a spectroscope, the author recommends, when using a grating, the introduction of a large glass prism between the heliostat and the slit of the spectrometer. An impure spectrum is thus formed on the slit, and by moving the slit to the part of this spectrum corresponding to light of the wavelength under observation, the difficulties due to the overlapping of the spectra may in a great measure be overcome. After mentioning that the great difficulty in designing a siderostat which should work with "astronomical accuracy," is to get a form of sliding motion quite free from back-lash, and which will move perfectly regularly, Dr. Stoney exhibited a model of a form of mechanism for obtaining such a motion which he had devised. The principle on which the instrument depends is that, if you have a point fixed to a circle which rolls on the inside of another circle of double the diameter, this point will describe a straight line. The smaller disc does not, in the model exhibited, roll directly on the larger