

IN the letter signed "O. S." last week (p. 525), under the heading "Remarkable Sunsets," the French term should be *pelure d'oignon* and not *velure*.

THE additions to the Zoological Society's Gardens during the past week include a Macaque Monkey (*Macacus cynomolgus* ♂) from India, presented by Mrs. F. Mortimer; two Secretary Vultures (*Serpentarius reptilivorus*) from South Africa, presented by the Rev. G. H. R. Fisk, C.M.Z.S.; a Blue-and-Yellow Macaw (*Ara ararauna*) from South America, presented by Mr. H. W. Kingdom; two Common Peafowls (*Pavo cristatus* ♂ ♀) from India, presented by Mr. R. F. J. Cobbett Allen; a Common Viper (*Vipera berus*, black variety) from Hampshire, presented by Lord Londesborough, F.Z.S.; a Yaguarundi Cat (*Felis yaguarundi*) from South America, a Leuhdorf's Deer (*Cervus leuhdorfi* ♂) from Amoorland, two Jardine's Parrots (*Psephenus gularis*) from West Africa, three Rhinoceros Hornbills (*Buceros rhinoceros* ♂ ♀ ♀) from the Malay Peninsula, two Nepal Hornbills (*Aceros nepalensis* ♂ ♂), a Green Cochoa (*Cochoa viridis*), two Nepal Tree Pies (*Dendrocitta nepalensis*), a Gray-headed Thrush (*Turdus castanea*) from Nepal, three Bronze Fruit Pigeons (*Carpophaga aenea*), two White-breasted Gallinules (*Gallinula phœnicura*) from India, two White-backed Pigeons (*Columba leuconota*) from the Himalayas, seven Waxwings (*Ampelis garrulus*), two Proteus (*Proteus anguinus*), European, purchased; a Lucian's Parrakeet (*Palaornis luciani*) from China, a Geoffroy's Dove (*Peristera geoffroyi* ♂) from Brazil, received in exchange.

#### OUR ASTRONOMICAL COLUMN

COMET 1884 a.—The comet notified by telegram from Mr. Ellery as having been discovered in the constellation Grus, appears to have been detected by Mr. Ross, a young amateur astronomer residing at Elsterwick, near Melbourne, on January 7. Observations were commenced at Melbourne on January 12, and were continued to February 4, when the comet had become very faint. The positions, as first communicated to the *Astronomische Nachrichten*, contained more than one obvious error, and generally (according to a comparison made by Dr. Kreutz with an orbit since received from Melbourne) appear to be strangely inaccurate, a circumstance that will probably have caused useless expenditure of time to computers. We subjoin the Melbourne orbit with one calculated by Mr. Hind from the observations on January 12 and 28 and February 4, as they are printed in *Astron. Nach.*, No. 2579:—

	Melbourne	Hind
Perihelion passage, 1883, Dec. 25 7838	Melb. M.T. ...	Dec. 25 4998 G.M.T.
Longitude of perihelion ... ..	125 15 55	124 14 4
" " ascending node	265 12 15	265 56 5
Inclination ... ..	64 53 16	64 59 7
Log. perihelion distance ... ..	9 502384	9 51838
	Motion—Retrograde.	

It is to be remarked that Dr. Kreutz, calculating from the Melbourne orbit, does not reproduce the extreme positions stated to have been employed in its computation.

VARIABLE STARS.—On comparing the late Prof. Julius Schmidt's determinations of the times of minima of *Algol* in 1883 with the formula given by Prof. Schönfeld in his second catalogue of variable stars, it will be found that, by a mean of the observations between August 14 and December 4, the formula gives the minimum too late by fifty-eight minutes. The mean annual errors for the period 1876-83 have shown irregularity, but the separate results within the same year differ considerably.

Mr. Baxendell has worked out new elements for R Arietis from his own observations 1859-81. He finds for—

	Days
Maximum ...	Epoch 1866, Sept. 1 3 + 186 71 E.
Minimum ...	Epoch 1870, Jan. 2 3 + 186 63 E.

The mean interval from maximum to minimum is 99 0 days, and from minimum to maximum 87 7 days.

THE OBSERVATORY, CINCINNATI.—The seventh part of the publications of this Observatory has appeared. Parts 4, 5, and

6 were devoted by Mr. Ormond Stone to the double-star measures made with the 11-inch refractor in the years 1877-80. In the new part are given the observations of comets in the years 1880-82, including numerous physical observations as well as observations for position. There is a comparison with theory of the phenomena in the tail of the great comet of 1882. In a number of plates are illustrated the telescopic and naked-eye appearance of the great comets of 1881 and 1882 and of the first comet of the latter year.

Mr. H. C. Wilson is in temporary charge of the Cincinnati Observatory, Mr. Ormond Stone having been appointed Professor of Astronomy in the University of Virginia, and Director of the Leander McCormick Observatory.

THE "ASTRONOMISCHE GESELLSCHAFT."—The fourth part of the eighteenth volume of the *Transactions* of this Society is issued. It contains the proceedings at the meeting held in Vienna in September last and the usual critical notices of recent astronomical publications; also reports on the progress of the zone-observations from thirteen observatories. It was decided to hold the next meeting at Geneva in 1885; Prof. Auwers was chosen president for the second time, with Prof. Gylden as vice-president, and Profs. Schönfeld and Seeliger (now at Munich) as secretaries.

#### PHYSICAL NOTES

THE transition-resistance supposed by Poggendorff to exist in electrolytic cells between the surface of the electrode and that of the electrolyte in contact with it has lately been investigated with great care by Prof. J. Gordon Macgregor in solutions of very pure zinc sulphate, using electrodes of amalgamated zinc. The conclusion arrived at was that such a transition-resistance, if it exists at all, is less than 0.0125 of an ohm.

IN another paper which appears in the *Transactions of the Royal Society of Canada* Prof. Macgregor describes an ingenious arrangement devised by him for measuring on Wheatstone's bridge the resistances of electrolytes. He employs alternate currents produced by a rotating commutator inserted in the circuit of two Daniell's cells; and in order to use with this arrangement an ordinary mirror-galvanometer, he recomputes the currents in the galvanometer circuit by means of a second commutator rotating on the same axle as the first.

THE annual *conversations* of the Société de Physique, of Paris, will be held this year on April 15 and 17 respectively, the former being limited strictly to the members of the Society. These meetings will, by the invitation of Admiral Mouchez, be held in the Observatoire.

A NOTE on Hall's effect was recently read at a meeting of the Physical Society of London by Prof. S. P. Thompson and Mr. C. C. Starling. They find that when a large sheet of foil is used, and placed symmetrically in a concentrated field between pointed magnetic poles, so that the junctions and connections are quite outside the influence of the field, Hall's effect is not produced. They find, however, an alteration in the equipotential lines of the current in the strip where it is magnetised, and have traced this effect to a change in the resistance. Strips of gold and tin show a decrease, strips of iron a slight increase of resistance when subjected to a strong magnetic field.

ANOTHER paper on Hall's effect appears in the current number of the *Journal de Physique* from the pen of M. Leduc. In this article M. Leduc draws a diagram of the equipotential lines, as, according to his ideas, they will be found to lie between the two "parasitical" electrodes. It does not appear whether he has verified his views by actual determinations of the position of the lines of equal potential.

ROWLAND'S famous experiment demonstrating the magnetic action of electric convection has been called in question by Dr. E. Lecher of Vienna. In Rowland's original experiment the electrified rotating disk was horizontal, and the magnetic needle, protected from electrostatic influences by being enclosed in a metallic case, was held over the disk at a point near the circumference. Dr. Lecher, in attempting to repeat the experiment, placed the rotating disk in a vertical plane, its axis being horizontal; the magnet needle was placed parallel to the plane of the disk and in the axis of its rotation in fact relatively as the coil and needle of a Gaugain galvanometer. Disks of brass and of *papier-maché* covered with graphite were used, and charged