

competing for this prize are to be sent in before October 1, 1885.

EARTHQUAKES are reported from Silesia and North-Eastern Bohemia. Two shocks were noticed on January 31, at 2.40 p.m., at Trautenau. Their direction was from south-west to north-east. They were also felt at Braunau, Jungbuch, Freiheit, Marschendorf, Grossaupa, Spindelmühle, and Johannisbad, and also at Görbersdorf and Landeshut. The motion was undulatory and lasted from three to five seconds. No damage was done.

THE Paris papers report the extraordinary run of a small hydrogen gas balloon, capacity about two gallons, which, having been liberated at Bercy, was discovered at Grodno in Poland, having travelled more than two thousand miles; it is the longest air journey on record for so small an object.

THE French gas companies have instituted at their common expense a laboratory for testing the several inventions reported in electric lighting, and proving whether they are valuable or not. After alluding to this foundation, and the much-spoken-of experiments tried at the French Great Northern Railway Station, a French scientific periodical says: "Mieux vaut un sage ennemi qu'un imprudent ami."

THE additions to the Zoological Society's Gardens during the past week include a Green Monkey (*Cercopithecus callitrichus* ♂) from West Africa, presented by Mr. J. F. Williams; a Punjab Wild Sheep (*Ovis cycloceros* ♂) from North-West India, presented by Lieut.-Col. C. S. Sturt, C.M.Z.S.; a Thar (*Capra jemtaiica*) from the Himalayas, presented by Lieut.-Col. Alex. A. Kinloch, A.Q.M.G., C.M.Z.S.; a Blyth's Tragopan (*Cerionis blythi* ♂) from Upper Assam, a Fythch's Partridge (*Bambusicola fytchii*) from Upper Assam, presented by Capt. Brydon; a Small Hill Mynah (*Gracula religiosa*) from South India, presented by Dr. Rogers W. Taylor; a Macaque Monkey (*Macacus cynomolgus* ♂) from India, a Common Cormorant (*Phalacrocorax carbo*), British, deposited; three Stump-tailed Lizards (*Trachydosaurus rugosus*) from Australia, purchased.

OUR ASTRONOMICAL COLUMN

THE GREAT COMET OF 1882.—The following places for Berlin midnight are derived from Dr. Kreutz's ellipse:—

1883.	R.A.	Decl.	Log. Distance from Earth.	Distance from Sun.
February 26 ...	5 52 10 ...	15 43'3 ...	0'4551 ...	0'5122
28 ...	5 51 43 ...	15 17'1 ...	0'4629 ...	0'5158
March 2 ...	5 51 23 ...	14 51'5 ...	0'4705 ...	0'5193
4 ...	5 51 8 ...	14 26'5 ...	0'4781 ...	0'5227
6 ...	5 51 0 ...	14 2'1 ...	0'4856 ...	0'5261
8 ...	5 50 57 ...	13 38'4 ...	0'4930 ...	0'5295
10 ...	5 51 0 ...	13 15'4 ...	0'5003 ...	0'5329

Mr. E. E. Barnard, of Nashfield, U.S., reports that on the morning of October 14 he found to the south of the comet a large, distinct cometary mass, fully 15' in diameter, and a similar but less bright object close beside this, their borders touching, and on the opposite side of the first a third fainter mass: the three were almost in a line, east and west. More of these cometary masses were found towards the south-east: there were at least six or eight within about 6' south by west of the head of the great comet. Their appearance was that of distinct comets with very slightly brighter centres, several being in the field at once. They were not seen again after being obscured by daylight on the morning of October 14.

Dr. Julius Schmidt's observations of a cometary mass near the head of the great comet are already published in No. 2468 of the *Astronomische Nachrichten*.

On the 5th inst., with the large refractor at Strasburg, the comet had two stellar nuclei, the fainter of the two on an angle of 246', and 38" distant from the brighter, which was observed for position. On January 27, Mr. Ainslie Common, of Ealing,

with his large reflector, saw the nuclear part of the comet larger but less bright than previously, and resolved into a string of brightish points, the second and third of which were much the brightest. The position-angle was 240° 20', and the distance between the brighter points was 31'' 5, so that they doubtless correspond to the two "fixternartige Kerne" observed at Strasburg. In a sketch with which Mr. Common has favoured us, five points of condensation are shown; it was made at 9 p.m. on January 27.

VARIABLE STARS.—Dr. Julius Schmidt has published his usual summary of results of observations of variable stars, made at Athens in 1882. Minima of Ceraski's variable U Cephei occurred on November 25 at 8h. 57' 2m, mean time at Athens, and on November 30 at 8h. 36' 5m. Minima of Algol on November 29 at 11h. 30' 4m., and December 2 at 8h. 7' 1m., the first determined from observations extending over 5' 4h., and the second from an interval of 7' 5h. R Hydræ was at maximum on March 8, when it attained 4' 3m. Mira Ceti at minimum on February 4, magnitude 9.5; the statement in some of our popular treatises on astronomy, that this star disappears at minimum is erroneous; its average brightness at that time is about 9m. on Argelander's scale, according to the most experienced observers. χ Cygni was at maximum September 1' 5, the predicted date being August 25. The variations of α Herculis during the year were small, but well fixed by numerous observations; the period, as usual, irregular; the same may be said of δ Herculis. T Cephei at maximum on January 11, 6' 7m., the increase of light much quicker than the decrease; V Coronæ at maximum September 15' 6; the fine variable R Leonis was at maximum on May 20, 6' 5m., and at minimum on November 6, 9m.; R Piscium at maximum on December 5' 3, the increase of light slower than previously; Palisa's variable in Scorpio at maximum July 9' 7, 12m.; of R Scuti, a maximum occurred October 11, well-determined minima, on June 21 and December 6; Harding's variable R Virginis was at maximum April 16' 6, and at minimum June 30' 5, the limits of brightness being 7m. and 11' 7m.

It is much to be desired that the number of observers of these interesting objects should be largely increased; their observation opens up a field of useful work, even to an amateur with the most modest of optical appliances. At present our knowledge of the subject is mainly due to the systematic labours of the indefatigable director of the Observatory at Athens.

A NEW NEBULA.—Mr. Barnard notifies his discovery of a new nebula 1° 48' north, and 5m. 39. west of ϕ Virginis. It was observed with the 15-inch refractor at Harvard College by Mr. Wendell, and described as "rather diffuse and faint, but gradually a little brighter in the middle"; its position for the beginning of 1882 is in R.A. 14h. 16m. 19' 6s., Decl. +0° 9' 14". This nebula is not found in the Harvard Zones, Nos. 53 and 54, observed on May 9 and 11, 1853, and which would overlap its place, though three new and faint nebulae were first detected in those Zones, viz. Nos. 33-35 of Prof. Auwer's Catalogue of new nebulae in the Königsberg observations. This object may be worth watching, on the score of possible variability.

GEOGRAPHICAL NOTES

IN NATURE last week we announced that an Arctic expedition this summer had been decided on in Sweden. This expedition, which has been promoted by the well-known Swedish Mæcenas, Dr. Oscar Dickson, will be in command of Baron Nordenskjöld, whose intention it is on this occasion to explore the east and north-east coast of Greenland. It was originally his intention to have proceeded this summer into the Siberian seas, but seeing the delay caused to the Danish Polar Expedition, which will now be there during the summer, this idea was abandoned and Greenland decided on instead. Baron Nordenskjöld, having formerly visited the country, is of the opinion that some kind of "break," or oasis, is to be found in the interior of Greenland. He proposes to proceed along the east coast of Greenland, as far as the ice will allow, and then to penetrate into the interior, some 300 miles across the inland ice. The country inland is nearly the whole year covered by ice and snow, which, during the summer months, render it almost entirely one bog. The enormous stretch of inland ice has also always been a barrier to exploration. Another object in view by Baron Nordenskjöld is to attempt to find traces of the Norse colonies, which existed in Greenland