

OUR ASTRONOMICAL COLUMN

VARIABLE STARS.—Minima of the short-period variable S Cancri may be expected about November 8, 9h. 5m.; November 27, 8h. 21m.; and December 16, 7h. 36m. The latest observations upon record were made by Schmidt in 1883: he found the star faint on March 12 at 7^h.2h. and March 31 at 12^h.8h. mean time at Athens. The star does not appear to have been much observed of late years, and further observations are needed as a check upon the period. An abstract of Prof. Schönfeld's discussion on the fluctuations of this variable will be found in vol. ix. of the *Vierteljahrsschrift der Astronomischen Gesellschaft*, p. 226; he there gives as elements

Minimum = 1867 August 31, 14h. 12^m.24m. Paris M.T. +
(9d. 11h. 37^m.75m.) E.

The diminution of light appears to commence about 8½ hours before the minimum; about 13 hours after minimum the star attains its usual brightness. It is therefore a variable of the Algol type. The abstract of Prof. Schönfeld's memoir referred to above is a pretty full one: the memoir itself is not to be found in the libraries either of the Royal or Royal Astronomical Societies.

Considering the great loss which this branch of observational astronomy sustained in the death of Prof. Schmidt, it is very satisfactory to find that observations of variable stars are systematically made at several Continental observatories, including the important physical establishment at Potsdam, where Dr. Wilsing is giving much attention to the subject. In the year 1883 he made upwards of 380 series of observations on 38 stars, including 24 of R Coronæ, a star which has been too much neglected. Prof. Safarik, Director of the Observatory at Prague, made numerous determinations of the brightness of some fifty stars during the same year: he mentions two *maxima* of U Geminorum, which we take to be a clerical error for *minima*. He further states that the companion of S Orionis 10^h.11 m., was invisible at the beginning of 1883, and continued so until April; in August it was again visible, and slowly attained 10^h.9 m., so that it is variable to the extent of several magnitudes, and Prof. Safarik adds, "möglicherweise alterniren seine Erscheinungen mit jenen von S Orionis." If there is reason to suspect this, the star will obviously deserve close attention. The companion precedes 2^s.5s., and is south 0^o.4.

The positions of S Cancri and S Orionis for 1885^o are:—

	R.A.			N.P.D.	
	h.	m.	s.	°	'
S Cancri ...	8	37	22	70	33 ¹
S Orionis ...	5	23	20	94	46 ⁹

Reference was made in a former column to the approaching maximum of χ Cygni about the middle of November.

WOLF'S COMET.—A circular of the Vienna Academy contains elliptical elements of this comet by Dr. Zelbr, which confirm generally the calculations of Prof. Krueger and Mr. S. C. Chandler; the period of revolution is found to be 6^h.76 years, the perihelion passage November 17^h.6739 Greenwich M.T. At midnight on that date the comet will be in R.A. 341^o 50', N.P.D. 92^o 8', distant from the earth 0^h.979.

THE SOLAR ECLIPSE OF MARCH 16, 1885.—The commencement of this eclipse will be visible just before sunset on the west coast of Ireland. So far as we are aware, the only astronomical observatory at which it will be observable is that of Col. Cooper at Markree, which is in charge of Mr. Marth. The first contact takes place there at 5h. 43m. 58s. Markree M.T. at 86° from north point towards west, for direct image. At Valentia the eclipse begins at 5h. 40m. 22s. local mean time, at 82° from north towards west. Particulars of the track of the annular eclipse across the United States and Canada have already appeared in this column.

GEOGRAPHICAL NOTES

AN interesting pamphlet, on the systems of writing used by the various races which inhabited or still inhabit the Philippine Islands, has just been published by Señor Pardo de Tavera under the title "Contribucion para el estudio de los Antiguos Alfabetos Filipinos." It is illustrated with plates containing the alphabets discussed, which include those of the Tagals, Visayas or Bisayas, and the Battas. This archipelago offers a comparatively virgin field to students in almost every branch of inquiry.

Prof. Blumentritt of Leitmeritz has devoted much study and research to the early history of the Spanish occupation of Luzon, and to the settlements of the Chinese and Japanese there during the sixteenth and seventeenth centuries, but since the publication of Jagor's work nearly thirty years ago little that is generally known in Europe has been done to solve the various problems which the languages, races, and geography of the islands present. In Spain there exists an important literature, chiefly of the last century, on the subject, and the works of Fray Gaspar, Argensola, Bravo, and others should be a mine for the modern student. The ethnology of the Negritos of the Philippines has been discussed in Germany by Dr. Mundt-Lauf; but of the wild mountain tribes of the interior, and of those who are in a state of chronic war with the Spaniards to the south of Iloilo, hardly anything is known. There is a vague surmise that some of them (the Igorrotes of Luzon, for example) are descendants of Chinese pirates of the latter end of the sixteenth century, who having attacked the Spanish settlements were defeated, and fled to the mountains, where they took themselves wives of the natives and became the progenitors of a new race.

THE last number of the *Zeitschrift der Gesellschaft für Erdkunde zu Berlin* contains a long paper by Prof. Blumentritt on the Island of Mindanao, the second largest of the Philippine Islands, accompanied by an excellent map, based on numerous Spanish maps. The writer enters at length into the geography and ethnology of the island, dealing in successive sections with the mountains, hydrography, political divisions, population, and the eighteen tribes which inhabit it. With regard to the last section of his subject, Prof. Blumentritt says that if we omit the few Europeans, Creoles, Mestizos, and Chinese, the natives of Mindanao may be divided into Negritos and Malays. The former are subdivided into Mamanuás and Atas, while the latter are composed of a series of tribes which may be approximately placed according to their religion under three heads: (1) the Visayas, or "Old Christians"; (2) the mountain tribes, who are either Pagans or Conquistas; (3) the Moros (Moors), who are Mohammedans. The Visayas and Moors are late-comers; the former arrived within the period of Spanish rule in the island from the archipelago lying to the north, which at present bears the name of the Visaya Islands; the Moros also came recently from Borneo and Ternate. Our knowledge of the mountain tribes, says Prof. Blumentritt, is not sufficient to enable us to state definitely what relation they bear to the Visayas, or to the head-hunters of Borneo and Luzon. In the following sections of his paper the writer gives all the information available respecting these tribes, his sources being chiefly the reports of Spanish missionaries. In many cases this information is of the vaguest possible description. In addition to the eighteen tribes here mentioned, there are no fewer than fourteen States with independent Sultans amongst the Moros of Mindanao.

THE same number of the *Zeitschrift* also contains a paper (with a map) on the Loochoo Islands, by Herr Müller-Beeck. It appears to be wholly taken from reports furnished to the Japanese Government by an official who visited the archipelago several times for the purpose of investigation. The paper adds little to our knowledge of the islands, because there is probably not a great deal to know about them geographically. By the way, Herr Müller-Beeck is in error in attributing the name Linschoten, as applied to the seven islands of the northern group called Shichi-to, to the English. This corruption is due to the Dutch, and like many similar corruptions still retains its place in our Admiralty charts as the name by which the islands are known to European navigators.

M. BRAU DE SAINT-POL LIAS, who, as recently mentioned in NATURE, has been commissioned by the French Minister of Public Instruction to make a natural history collection in Sumatra and Java, is an experienced traveller in those regions. Not long since he published a work on Perak, in the Malay Peninsula, and the tribes inhabiting it. He has now issued another small volume on the Acheenese, under the title of "Chez les Atchés-Lohong" (Paris, Plon). Having made friends with the headman of Lohong, he was able to travel freely in that portion of Sumatra, and to observe the customs of the natives. Not long before, two of his countrymen were murdered in neighbouring territory, through which, however, M. Lias was allowed to pass. He appears also to have travelled near the now notorious Tenom, where the unfortunate crew of the *Nisero* were so long confined, and on the whole to have enjoyed advantages for obtaining information about this little-known region—although