

*Remarks.*

(1) The spectrum of this nebula has not yet, so far as I know, been recorded, but the observation will not be difficult, if one may judge from the description given by Herschel, namely: "Very bright, pretty large, round, much brighter in the middle, mottled as if with stars."

(2) This star has a spectrum of the Group II. type, Dunér describing it as very beautiful. He states that all the bands, 1-9, are very wide and dark. The observations most likely to extend our knowledge of the group of bodies to which this star belongs are (1) observations of the bright carbon flutings (see p. 305); (2) comparisons with the flame spectra of manganese, magnesium, and lead; (3) observations made with special reference to the presence or absence of absorption lines, of which Dunér makes no mention.

(3) Gothard classes this with stars of the solar type. The usual differential observations are required.

(4) A star of Group IV. The usual observations of the relative intensities of the hydrogen and metallic lines (*b*, *D*, &c.), as compared with other stars, are required.

(5) A rather faint star of Group VI., in which the character of band 6 (near  $\lambda$  564), as compared with the other carbon bands (9 and 10), requires further attention. Secondary bands should also be looked for.

(6) This variable is stated by Gore to have a continuous spectrum, but it seems probable that lines or flutings will be found if the star be examined under the most favourable conditions—that is, when near maximum. Rigel was formerly said to have a "continuous" spectrum, but the lines are now by no means difficult to see. The star ranges from magnitude 6 at maximum to 7.2 at minimum, and the period is 31-50 days (Gore).  
A. FOWLER.

TOTAL SOLAR ECLIPSE OF 1886.—Dr. Schuster has thus summarized the spectroscopic results he obtained at this eclipse (Phil. Trans., vol. 180, 1889):—

(1) The continuous spectrum of the corona has the maximum of actinic intensity displaced considerably towards the red, when compared with the spectrum of sunlight.

(2) While, on the two previous occasions on which photographs of the spectrum were obtained, lines showed themselves outside the limits of the corona, this was not the case in 1886.

(3) Calcium and hydrogen do not form part of the normal spectrum of the corona. The hydrogen lines are visible only in the parts overlying strong prominences; the H and K lines of calcium, though visible everywhere, are stronger on that side of the corona which has many prominences at its base.

(4) The strongest corona line in 1886 was at  $\lambda = 4232.8$ ; this is probably the 4233.0 line often observed by Young in the chromosphere.

(5) Of the other strong lines, the positions of the following seem pretty well established:—

4056.7	4084.2	4089.3	4169.7	4195.0	4211.8
4280.6	4365.4	4372.2	4378.1	4485.6	4627.9

The lines printed in thicker type have been observed also at the Caroline Island and Egyptian Eclipses.

(6) A comparison between the lines of the corona and the lines of terrestrial elements has led to negative results.

ANNUAIRE DU BUREAU DES LONGITUDES.—In the volume for 1890, MM. Lœwy and Schulhof contribute a list of the comets which appeared from 1825 to 1835 inclusive, and in 1888, being a continuation of the lists given in former years. M. Lœwy also gives a complete table of the appearances of the planets throughout 1890, and ephemerides of a considerable number of variable stars. An elaborate comparison of the various calendars is from the pen of M. Cornu, and under the head of the solar system a rich store of information is included. With the notices we find an account of the meeting of the permanent committee of the photographic chart of the heavens and the Photographic Congress of September last. This year's *Annuaire* is as completely filled with information as it has ever been and doubtless will be as much appreciated by astronomers.

ANNUAIRE DE L'OBSERVATOIRE ROYAL DE BRUXELLES.—The volume for 1890 is the fifty-seventh annual publication from this Observatory. It contains tables of the mean positions of the principal stars and their apparent right ascensions, of the occultation of stars by the moon, and of eclipses of Jupiter's satellites, mention being also made of remarkable phenomena relating to the moon and the planets. M. Follé gives a biographical

sketch of his predecessor, J. C. Houzeau, which is embellished with the portrait of this deceased bibliographer. Considerable attention has been paid to the researches on diurnal nutation and the determination of the constant. M. Spee discusses the tabulated observations of the condition of the sun's surface during 1888, and M. Moreau contributes an interesting note on the movement of a solid about a fixed point. A list is also given of the comets and asteroids discovered in 1889, and some of the particulars relating to their orbits.

ROYAL ASTRONOMICAL SOCIETY.—The annual general meeting of the Fellows of this Society will be held at Burlington House on Friday, the 14th inst., for the purpose of receiving the Report of the Council, electing officers for the ensuing year, and transacting other business of the Society. The chair will be taken at 3 o'clock precisely.

*Erratum.*—In the elements of companion C of Brook's comet (p. 305), read  $\Omega = 17^{\circ} 52' 24''.5$ , and  $\log a = 0.565059$ .

## GEOGRAPHICAL NOTES.

BARON NORDENSKIÖLD has announced in the Swedish Academy of Sciences, that he and Baron Oscar Dickson, with assistance from the Australian colonies, will start on an expedition in the South Polar regions next year.

A RECENT telegram from Tashkent announced that Colonel Pevtsoff and M. Roborovsky had discovered a convenient pass to the north-western part of Tibet, from Nia, and had mounted to the great table-land. The plateau has there an altitude of 12,000 feet above the sea, and the country round is desolate and uninhabited, while towards the south the plateau is well watered and wooded. The Tashkent telegram is so expressed that it might be supposed to mean that two separate passes had been discovered by the two explorers. But the news received from the expedition at St. Petersburg on December 26, and dated October 27, shows that both explorers proposed to leave the oasis of Keria (100 miles to the east of Khotan) on the next day, for Nia (65 miles further east) and there to search for a passage across the border-ridge which received from Prjevalsky the name of the "Russian ridge." This immense snow-clad chain separates the deserts of Eastern Turkestan from the trapezoidal space, the interior of which is quite unknown yet, and which is bordered by the "Russian" ridge and the Altyn-tagh in the north-west; the ridges of Tsaidam and those named by Prjevalsky "Columbus" and "Marco-Polo" in the north-east; the highlands (explored by Prjevalsky in 1879-80) at the sources of the Blue River, in the south-east; and a long, yet unnamed ridge which seems to be a prolongation of the Tan-la, in the south-west. The pass leading to that plateau from Nia, and now discovered by the Russian expedition, is situated some 80 miles to the east of the well-known pass across the Kuen-lun Mountains which leads from Southern Khotan to Lake Yashi-kul. M. Roborovsky's intention is evidently next to move up the Tchertchen river and to endeavour to reach the ridges "Moscow" and "Lake Unfreezing" (11,700 feet high), which were visited by Prjevalsky from the east during his last journey. Having succeeded in finding a pass to Tibet in the south of Nia, Colonel Pevtsoff proposes, as soon as the spring comes, to proceed himself by this pass to the table-land, while M. Roborovsky probably will be despatched to explore the same border-ridge further east, in the south of Tchertchen.

THE *Boletín* of the Madrid Geographical Society for the last quarter of 1889 contains a most valuable memoir by Dr. Fernando Blumentritt, on the intricate ethnology of the Philippine Islands. The author classifies the whole of the native population in three broad divisions—Negrito, Malay, and Mongoloid; the last comprising those tribes which in their physical appearance betray certain Chinese or Japanese affinities. All are grouped in an admirably arranged alphabetical table, where their names, race, language, religion, culture, locality, and numbers are briefly specified in seven parallel columns. With a few variants and cross-references this table contains no less than 159 entries, and thus conveys in summary form all the essential particulars regarding every known tribe in the Philippine Archipelago. From it we gather that the Negritoes—that is, the true autochthonous element, variously known as Aetas, Attas, Atés, Etas, Itas, Mamánuas, &c., and physically belonging to the same stock as the Samangs of the Malay Peninsula—