

WE are requested to state that the annual Students' *Conversazione* will take place at the Finsbury Technical College on Friday evening, July 2, commencing at 7 o'clock. A good exhibition of apparatus, models, and specimens has been arranged to illustrate the various branches of applied science and art comprised under the College scheme of technical education.

A SWEDISH geologist, Dr. H. Sjögren, is about to proceed to the naphtha regions on the Caspian Sea, in order to prosecute geological studies.

WE have received from Messrs. Griffin and Co. the third annual issue of the "Year-Book of the Scientific and Learned Societies." It gives a brief chronicle of the work done during the year by the various Societies, together with the necessary information as to official changes.

THE Saghalien Ainos do not exhibit the same uncouthness as those of Yezo; there is a greater absence of beards and of hairy bodies generally. The hue of the skin very closely resembles that of the Caucasian; the foreheads are high but narrow, and their general bearing and facial expression denote an intelligence much superior to that of the Yezoiners. As for the theory of an ethnical connection between the Ainos and the Japanese, Mr. Penhallow says that an examination of the pure types would not permit such a belief to be entertained. There is a mixture of the two in places, but the half-breed is as easily recognisable there as elsewhere in the world. The Japanese, he concludes, are unquestionably Mongoloid, while the facts show the Ainos to be physically distinct, while the best authorities agree in the great resemblance which they bear to Europeans, the prevailing view being that they are distinctly Aryan.

THE additions to the Zoological Society's Gardens during the past week include a Bonnet Monkey (*Macacus sinicus* ♀) from India, presented by Mrs. George Willing; two Tcheli Monkeys (*Macacus tcheliensis* ♂ ♀) from Junz-ling, near Pekin, presented by Dr. S. W. Bushell, C.M.Z.S.; a Wild Swine (*Sus scrofa* ♀) from Tangier, presented by Mr. John Brooks; four Sparrow Hawks (*Accipiter nisus*), British, presented by Mr. J. Rowland Ward, F.Z.S.; an Egyptian Goose (*Chenalopex aegyptiaca*), a Robben-Island Snake (*Coronella phocarum*), a Hoary Snake (*Coronella cana*), an Infernal Snake (*Boodon infernalis*), a Rhomb-marked Snake (*Prammophylax rhombeatus*), a Horned Viper (*Vipera cornuta*), eight Geometric Tortoises (*Testudo geometrica*), a Leopard Tortoise (*Testudo pardalis*), three Areolated Tortoises (*Homopus areolatus*) from South Africa, presented by the Rev. G. H. R. Fisk, C.M.Z.S.; a Crowned Horned Lizard (*Phrynosoma coronatum*) from California, presented by Mr. S. Upton Robins; a Common Viper (*Vipera berus*), British, presented by Mr. W. H. B. Pain; a Tuatera Lizard (*Sphenodon punctatus*) from New Zealand, presented by Capt. R. Sutherland; a Tarantula Spider (*Mygale*, sp. inc.) from Bahamas, presented by Mrs. E. Blake; a Peruvian Thicknee (*Edicinus superciliaris*) from Peru, two White-backed Piping Crows (*Gymnorhina leuconota*) from Australia, deposited; a Balearic Crane (*Balearica pavonina*) from West Africa, purchased; a Japanese Deer (*Cervus sika*), born in the Gardens.

OUR ASTRONOMICAL COLUMN

THE ABSORPTION SPECTRUM OF OXYGEN.—About three years ago M. Egoroff was able to show that the great groups A and B in the solar spectrum were due to the absorption of oxygen. More recently the *a* band was also found to be due to the same gas. M. Janssen, studying the absorption of oxygen has now discovered that under certain conditions the gas yields another spectrum, composed no longer of lines easily separated, but of shaded bands which can only be resolved with great difficulty. This system of bands appears for moderate pressures

much later than the spectrum of lines, but it shows itself very quickly with increase of the density: the two systems are so different that it is possible to obtain either the first without the second or *vice versa*. M. Janssen was at first unable to explain how it was that these bands were not visible in the solar spectrum when they were easily obtained by passing light through thicknesses of oxygen far less than the sun's light has to traverse before reaching us. But further experiments showed that these bands did not develop in proportion to the thickness of the stratum of oxygen producing them, multiplied by its density, but in proportion to the thickness multiplied by the square of the density. The density of our atmosphere being small as compared with some of the pressures at which M. Janssen worked, the non-appearance of these bands amongst the telluric lines of the solar spectrum is readily explained.

POTSDAM OBSERVATORY.—The fifth volume of the *Publications* of the Astrophysical Observatory of Potsdam is occupied with a very careful determination, by Drs. Müller and Kempf, of the wave-lengths of 300 of the principal lines in the solar spectrum. Four gratings were used in this inquiry—one with about 2500 lines to the inch, the second with 6250 lines, and the third and fourth with about 10,000 lines to the inch. Eleven normal lines were first measured with all four gratings and in the spectra of three or four orders with each grating, every observation being carefully corrected for temperature, &c. The computation of the wave-lengths of the 300 lines follows, and the details of the reduction of the observations of the eleven normal lines, and a catalogue of the wave-lengths of 2614 lines as given in the Potsdam Atlas of the spectrum, and as now corrected, concludes the work. The following are the wave-lengths of the selected normal lines, expressed in millionths of a millimetre:—C, 656'314, 640'035, 612'247; D, 589'625, 562'475, 545'580; *b*₂, 517'284, 495'770, 470'321, 441'534, and 407'186. It would seem from these determinations that Angström's wave-lengths require small but sensible corrections.

THE BINARY STAR γ CORONÆ AUSTRALIS.—With reference to our note on this double star (*NATURE*, vol. xxxiii, p. 425), in which we pointed out the large difference in the position-angles computed, for the present year, from the orbit of Mr. Gore and from that of Mr. Downing, we may draw attention to a communication by Mr. H. C. Wilson, of the Cincinnati Observatory, printed in the *Observatory*, No. 111, pp. 234-235. Mr. Wilson gives the mean results of observations of the binary in 1881 and 1883 as follows:—

1881'72	...	...	...	45'53	1'38
1883'62	...	...	...	37'75	1'62

The angles computed from Mr. Gore's elements for these two epochs are respectively 47°29 and 36°49, which may be regarded as agreeing fairly well with the observations. It appears, therefore, that of the two orbits referred to above, Mr. Gore's is by far the most satisfactory.

OBSERVATIONS OF THE COMPANION OF SIRIUS.—Prof. Young has communicated to the *Sidereal Messenger* (No. 46, p. 182) a series of measures of the companion of Sirius made at Princeton, for the most part with the 23-inch refractor, with powers of 460 and 300. Prof. Young remarks that during the present year the companion has been a difficult object, except when the seeing was good, and there have been fewer good nights than usual. The mean annual results are:—

Position-Angle			Distance		
Epoch	Measure	No. of nights	Epoch	Measure	No. of nights
1883'105	39'0	1	1883'105	9'41	1
1884'273	36'30	5	1884'270	8'70	4
1885'112	34'06	7	1885'089	8'09	8
1886'047	29'77	4	1886'049	7'59	3

ASTRONOMICAL PHENOMENA FOR THE WEEK 1886 JUNE 27—JULY 3

(FOR the reckoning of time the civil day, commencing at Greenwich mean midnight, counting the hours on to 24, is here employed.)

At Greenwich on June 27

Sun rises, 3h. 47m.; souths, 12h. 2m. 44'1s.; sets, 20h. 19m.; decl. on meridian, 23° 20' N.; Sidereal Time at Sunset, 14h. 42m.