

OUR ASTRONOMICAL COLUMN

THE TRANSIT OF VENUS IN NEW SOUTH WALES, &c.—In his address as president of the Royal Society of New South Wales, read May 3, Mr. H. C. Russell, the director of the Observatory at Sydney, gave some account of his arrangements for the observation of the approaching transit of Venus in that colony. Provision was liberally made last year by the legislature, and a sum of 500*l.* has been placed at Mr. Russell's disposal for this purpose. With this he states he will be able to provide four high-class 6-inch equatorials, exactly similar to those which are to be used by European observers, and two of 4½ inches. There are remaining from the last transit one equatorial of 11½ inches, one of 7¼, one of 5 inches, one of 4¾, and one of 4¼ inches. He hopes to be able to take up four stations, in addition to the Observatory, with two observers and two telescopes at each point. In order to make the best of the chances of favourable atmospheric conditions, elevated points on the east coast of New South Wales, have been selected, which, it may be fairly anticipated, will have a clearer view an hour after sunrise than could be looked for near the sea-level. Mr. Russell remarks that in observing the transit of Mercury last November, the observers were stationed at Bathurst, Katoomba, and Sydney, places which he had thought were far enough apart to secure different weather; but the result showed that the weather was practically the same at the three stations. This induced the unpleasant reflection that it may prove cloudy all along the coast on December 6, and he had therefore gladly taken advantage of the recent commission to Lord Howe Island to make some inquiry as to its suitability as a station. It is found that an elevated spot is easy of access, and the weather at the hour and season is almost sure to be fine.

We have also received from the Imperial Observatory of Rio de Janeiro a report on the proposed arrangements to be made by the Brazilian Government for securing observations of the Transit. In addition to Rio, it is intended to establish a station at Pernambuco and to equip an expedition to Santiago de Cuba. The details are in charge of M. Cruis, acting director of the Observatory at Rio.

SOLAR PARALLAX FROM OBSERVATIONS OF MINOR PLANETS.—Mr. David Gill, H.M. Astronomer at the Royal Observatory, Cape of Good Hope, has arranged with a number of observatories in both hemispheres for corresponding observations of the minor planets, *Victoria* and *Sappho*, about the times of their oppositions in the present year. *Victoria*, in opposition on August 24, will be distant from the earth 0.89 of the earth's mean distance from the sun; and *Sappho*, which comes into opposition in R.A. on September 24, will be within 0.85, so that we have in each case a favourable opportunity of applying the method of determining the sun's parallax, which was advocated and also applied by Prof. Galle, the director of the Observatory at Breslau. In a communication to the *Astronomische Nachrichten*, Mr. Gill states that the necessary extra-meridian observations will be made in the southern hemisphere at the Cape, Natal, Melbourne, and Rio de Janeiro, and in the northern hemisphere at Dunsink (Dublin), Strasburg, Berlin, Bothkamp, Leipsic, Upsala, Moscow, Clinton, U.S., and probably at Kiel. From the clearer skies of the southern hemisphere, he believes that a fully corresponding number of observations will be secured there, notwithstanding the smaller number of observatories, and he invites co-operation from other establishments in the northern hemisphere, on this ground. A list of the proposed stars of comparison is given in his letter.

COMET 1882a (WELLS).—The Emperor of Brazil, telegraphing to the Paris Academy of Sciences (of which body his Majesty is a member), reports the visibility of this comet at Rio de Janeiro, on June 17, and that three days later the nucleus was very bright, and the tail 45' long. If there be no error in the telegram, the development of the tail must have been rapid after the perihelion passage.

Prof. Zona has made a communication to the Società di Scienze Naturali di Palermo, in which he describes the undulations in the tail observed there in the week following April 14. On the 17th, in a fine sky, it is remarked of the phenomenon—“Sembra che la luce della coda vada a poco a poco diminuendo stringendosi attorno il nucleo come se venisse da questo attratta, poi ad un tratto si spande di nuovo.”

EDUCATION IN THE UNITED STATES¹

THE great work of the American Bureau of Education continues, like that of a large Reference Library among men who know its value. About 100 inquiries a day are addressed to it, and 150 letters of information are sent out on subjects varying from the Semitic language to dress-making, and including everything that comes within the limits of education. Its latest report, in which everything is tabulated, down to the opening of a normal summer school only kept open for four weeks, and in which attention is called to many matters of special interest, cannot be gone through without advantage to educationists in any civilised country, and most of all to those in our own.

If we are accustomed to think that Americans look upon their country with complete satisfaction, and as standing ahead of the Old World, more particularly in the matter of education, we shall not find such self-praise in the Government reports. A very interesting *résumé* is given of what foreign countries are doing. Attention is called to the more thorough manner in which young persons aiming at commercial pursuits are instructed on the Continent, while England is quoted as an example to be followed of the higher education of women. It is satisfactory to find, in this Report also, that the province of Ontario, in Canada, stands at the head of educating countries. There a system of free schools and compulsory attendance was established in 1871; and while the number of children within the school ages of five and sixteen was 492,460, there were actually attending schools 489,015! On the other hand, it is surprising to find the illiteracy of a very large proportion of the population of Prussia, where of 40,000,000 persons (including infants, &c.), 25,000,000 were unable to read or write!

The schools requisite to supply education to so widely spread a population as that of America are far more numerous than in our crowded country. Naturally, therefore, it is a great difficulty to find sufficient teachers properly educated and qualified for this important work. It might seem, at first, that, in a country where, on an average, each individual is better educated than in England, there would be no lack of able teachers; but teaching is an art requiring a technical education as much as any other art; and the work of those who have not had this technical training is as clumsy as most amateur work is, and is found to have the fault of superficiality. The Bureau of Education is simply an office of information and reference; it has no central control over the various States; and one result of this is, that no uniform standard of capacity is required of those who present themselves as teachers, and two standards are to be found, not only in the same State, but in the same city. A more unsatisfactory difficulty still is the favouritism and even corruption, not infrequent in appointing and dismissing teachers, who, in many cases, seem to go in and out of office like the nominees of a government. The picture of corruption on page xxii. must surely be an extreme case; but its possibility must add greatly to the difficulty of the situation. Pennsylvania's is called a proud record, there dishonesty among school-board officials is almost unknown; “a few thousand dollars would cover all the losses.” These things tell greatly against the business of a teacher being an attractive one, and, to add to them, in many States, as in Virginia, diminished public funds have been allotted to the common schools; the number of schools has been reduced, and the salaries of the remaining teachers lowered. In some countries in that State the local boards determined to open no schools, and to use the income for paying off debts.

The small pay of teachers, in the lowest standards especially leads them to throw up that branch on the first

¹ United States Report of the Commissioner of Education for the year 1879. (Washington Government Printing Office, 1881.)