also sets of botanical serials. Among the latter we notice Curtis's *Botanical Magazine* from 1787 to 1906; Edwards's *Botanical Register*, a complete set; Maund's "Botanic Garden," large-paper edition; the Transactions of the Linnean Society of London, complete to 1916; the *Orchid Album*; the *Orchid Review*; the *Phytologist*, by Luxford, Newman, and Irvine, all published. Messrs. Wheldon also have for disposal a large-paper copy of Loddige's "Botanical Cabinet," complete in 20 vols.

OUR ASTRONOMICAL COLUMN.

PERIODIC COMETS.—Wolf's comet was detected by Prof. Barnard at Yerkes Observatory on July 12, three days later than M. Jonckheere's first observation. M. Kamensky's predicted date of perihelion, 1918 December 13·3899, appears to be too early by 0·0531d., which is not a large error, and the ephemeris given in NATURE for July 11 will suffice for finding the comet.

Borrelly's periodic comet will pass perihelion a month earlier than Wolf's, and the conditions will be favourable for observation. Mr. L. v. Tolnay gives the following ephemeris in *Ast. Nach.*, No. 4948; it is for Greenwich midnight:—

		R.A. h. m. s.	S. Decl. ° ′	Log r	Log Δ
July	29	3 19 0	17 1	0·2653	0·2107
Aug.	2	3 28 5	16 41	0·2591	0·1972
	6	3 37 10	16 21	0·2529	0·1835
	10	3 46 15	16 1	0·2467	0·1696
	14	3 55 18	15 41	0·2405	0·1554
	18	4 4 19	15 20	0·2343	0·1411
	22	4 13 17	14 59	0·2282	0·1265
	26	4 22 12	14 37	0·2222	0·1116
	30	4 31 4	14 13	0·2162	0·0964

The perihelion passage is about November 16·65, log a=0·5598, e=0·0153, log q=0·1450.

THE PERIOD OF SIRIUS.—The companion to Sirius has lately been more easily observable than during the previous forty years, and has completed rather more than a revolution since its discovery in 1862. Mr. R. Jonckheere has obtained measures with the 28-in. refractor at Greenwich in the course of the last four winters, and has taken the opportunity of making a revised estimate of the period (Monthly Notices, R.A.S., vol. lxxviii., p. 480). The mean result is 50·02 years, which is 1·78 years shorter than that given by Burnham. The shortest period ever given was that of 48·84 years, arrived at by Zwiers, and the longest that of 58·47 years given by Gore. Mr. Jonckheere recalls that nearly eleven years before the visual discovery Peters made an investigation of the orbit from transit observations, and although the maximum displacement was only 0·152s., he obtained the closely accurate period of 50·01 years. Adopting the parallax 0·38″ and a semi-major axis of 7·5″, the corrected mass of the system is 3·07 times the mass of the sun.

TWO SPECTROSCOPIC BINARIES OF LONG PERIOD.—The spectroscopic binary 32 θ_2 Cygni has been under observation at the Dominion Observatory, Ottawa, by Mr. J. B. Cannon since 1914, and a preliminary orbit has now been determined (*Astrophys. Journ.*, vol. xlvii., p. 193). The period of this star is more than three years, and the eccentricity of the orbit 0·182, but there are irregularities which suggest the presence of a third body The velocity-curve may be explained by considering the system as consisting of a luminous star revolving about another body in a circular orbit in 390 days, and the pair revolving in an elliptic orbit about a third body in 1170 days. The star is of spectral type G5 and magnitude 5·15.

A spectroscopic binary of still longer period has been under investigation at the Cape Observatory by Dr. J. Lunt since 1903. The star in question is α Phœnicis, and the period has been found to be 10·62 years, or 3880 days. The eccentricity of the orbit is 0·32, and the system is receding with a velocity of 75·76 km. As regards length of period, the star is second only to Polaris, which has a period of 11·9 years. The star is of magnitude 2·44 and of type K.

STONYHURST COLLEGE OBSERVATORY.—The annual report of this observatory for 1917 includes a valuable record of the state of the sun's surface on 210 days of observation. In units of one five-thousandth of the visible surface the mean disc-area of the spots was 12·1, which is about three times greater than that of the previous year, and twice as great as at the previous maximum. The increased activity commenced early in February and reached its greatest intensity in August, the greatest area on any one day being 50 units on August 11. The February and August groups were of exceptional size, and second to none that have appeared during the last thirty-eight years. As regards the ranges of magnetic declination and horizontal force, the year was relatively quiet and out of accord with the solar activity. A comparison of the Stonyhurst drawings with spectroheliograms taken at the Yerkes Observatory has shown an almost perfect agreement between the faculæ and the calcium flocculi, but no similarity with the hydrogen flocculi. The report also includes particulars of meteorological and magnetical observations.

THE FUTURE OF THE ELECTRICAL TRADES.

THE Departmental Committee appointed by the Board of Trade to consider the position of the electrical trades after the war, with special reference to international competition, has now issued a Report (Cd. 9072, price 2*d*.). Like other similar Committees, this urges that "remedial and unifying legislation governing the supply and distribution of electrical energy should be introduced forthwith." A historical *résumé* of electrical enterprise in this country is given, and it is pointed out that, like the automobile industry, it has been hampered all through by the lack of a scientific outlook on the part of the officials of our Government Departments. Acting according to their lights, they encouraged competing companies using different types of plant and different systems to set up in the same area, the reason given being that the healthy competition would cheapen the supply to the consumer. The mischievous effect of this policy is well illustrated by the circular issued by the Board of Trade in 1916 calling on the supply companies to link up with one another in the national interests so as to reduce the consumption of coal and economise labour. That is, after making it practically impossible for the companies to link up, the Board calls on them to do so.

Looking to the future, the Committee points out that as the supply of electrical energy is a "key industry," it is imperative that questions concerning it should be prevented from becoming party questions. They should be considered solely on their merits from the point of view of national requirements. We quite agree, but we are afraid that this is a counsel of perfection. Few questions are of greater urgency than that of standardising some system for electrifying