twelve wedges of *lignum vitae* were inserted symmetrically round the mirror, and appear to have eliminated the slight movement.

Fifty-five photographs of the sixth, and eleven photographs of the seventh, satellite of Jupiter were secured with the 30-inch reflector, together with 170 photographs of minor planets and comets and twelve of various nebulæ. Of the latter, that of M 31 (Andromeda) and one of the Ring Nebula in Lyra are especially good.

The discussion of the photographs of Eros taken during the opposition of 1900–1 was completed, and a value for the solar parallax, in close agreement with the previously accepted value, was deduced.

With the astrographic telescope 188 supplementary photographs were taken, and 133 of them were passed as satisfactory. Positive copies of the plates covering zones 71°–74° are now completed, and of the 461 chart plates necessary to cover the remaining zones, 75° to the pole, seventy-five have to be repeated for the purpose of reproduction. Vol. ii. of the Greenwich Astrographic Catalogue is now complete, except for the introduction, which will contain the constants for the plates, and these have now been computed. For the area included in zone 81° (from 6h. to 24h.) and the zones 82° to the pole, viz. 254·7 square degrees, the 40m. exposure plates show 75,683 star images, or 297·2 per square degree; in the B.D. the corresponding area (1°) includes 15·7 stars. About 13,000 enlarged prints of the chart plates were made during the year.

During the period covered by the report, the sun was photographed on 210 days, and for 1906, including the Indian and Mauritian negatives, the daily photographic record of the sun's surface was complete except for one day. Twenty-three photographs of portions of the solar disc were secured with the 26-inch photographic refractor, fitted with a negative enlarger, the scale being such as to give a solar diameter of 30 inches.

The magnetic observations were carried on as usual, the principal results for the magnetic elements for 1906 being

Mean declination	16° 3′·6 W.
Mean horizontal force	4·0174 (in British units)
	1·8524 (in metric ,,)
Mean dip (with 3-inch needles)	66° 55′ 17″

There were no days of "great" magnetic disturbance and eight of lesser disturbance.

The mean temperature for the year ending April 30, 1907, was 50°·5, or 0°·9 above the average for 1841–1905, the highest and lowest shade temperatures recorded being 94°·3 (August 31) and 19°·8 (December 30) respectively. Of the 4457 hours that the sun was above the horizon at Greenwich, the Campbell-Stokes instrument recorded 1687 hours of bright sunshine.

The total rainfall was 0·26 inch below the average for the sixty-five years 1841–1905, being 23·86 inches, whilst the number of "rainy days" was 148.

The performance of the chronometers sent in for the annual trial was hardly up to the high standard of recent years, and of the fourteen pocket-chronometers submitted none came up to the standard of purchase. The next trial for chronometers will commence on June 15, and for chronometer watches on August 3.

In concluding his report, the Astronomer Royal refers to the threatened danger to the astronomical efficiency of the observatory occasioned by the L.C.C. generating station near by, the principal point being the recommendation of the committee appointed to consider the matter, that the conditions be reviewed after the lapse of two years. Experiments made last summer showed that the vibrations from the present installation can be effectually damped out by keeping the film of mercury in the amalgamated trough as thin as possible, but there still remains the danger that these vibrations may so cause the large telescopes to oscillate that delicate observations, such as close double-star work, may suffer materially.

A more insidious danger is that the heated gases from the chimneys may affect the accuracy of star observations on the northern meridian, and in that case the errors would not be discovered until the observations were reduced, when, possibly, it would be impracticable to repeat the observations.

TWO HEAVY SEISMOGRAPHS.

TWO new seismographs devised by Dr. Wiechert are now on sale by Spindler and Hoyer, of Göttingen. The fact which will strike most seismologists is the magnitude of the "stationary" mass employed. The horizontal pendulum uses a "stationary" mass of 17,000 kilo., nearly 17 tons. The mass is composed of barytes contained in a cylindrical sheet-iron vessel with a flat bottom. Its dimensions are 2 metres in diameter by nearly 2 metres in height, and, being intended to have freedom of movement horizontally, the vessel is suspended by three iron rods of 3 cm. diameter, the elasticity of which allows the necessary freedom. The next striking feature is the multiplication with which the thrust arm moves the indicator point, and this is 2200! It is brought about by means of four levers, multiplying $5\times5\times5\times17\frac{1}{2}$. The loss owing to the inertia and elasticity of the connecting system amounts to 5 per cent. only. "The instrument renders specially important service in the small European earthquakes where the rapid oscillations are more prominent." It is clear that this statement is justified. For local disturbances and extremely rapid elastic vibrations the instrument should be of great service, but, with such a multiplication, one is compelled to wonder how much the machine requires to be isolated in order to avoid the disturbance due to traffic. It is not surprising to find in a specimen seismogram tremors due to a gas engine $2\frac{1}{2}$ kilometres distant. Other drawbacks to the use of the pendulum are the price, 5000 marks, and the number of times the paper must require to be changed. These purely practical considerations must have weight with anyone who has real work in view.

The vertical seismograph has a "stationary" mass of 1300 kilograms, about one and a third tons. Even this is great as compared with the usual one to two hundred pounds. The multiplication, 160, is also large when one thinks of the usual 12 to 20. "The vertical apparatus often indicates the first movements of very distant earthquakes better than even the 17,000 kilo. pendulum, which multiplies 2000 times; so the Schlüter result is confirmed, from which follows that in the case of first indications we have to do with longitudinal movements." Thus runs the prospectus. The price of this pendulum, too, 2800 marks, is rather prohibitive, although the workmanship in both leaves little to be desired.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

CAMBRIDGE.—Dr. Graham-Smith, Prof. Nuttall, and Prof. Woodhead have been nominated to represent the University at the International Congress of Hygiene and Demography to be held in Berlin in September.

The general board of studies has approved Alexander Scott for the degree of Doctor in Science.

Profs. E. H. Liveing and H. Louis have been nominated examiners in the application of science to the art of mining, and Mr. C. T. Heycock an examiner in metallurgy for the diploma in mining engineering for the examination to be held in the Michaelmas term, 1907.

The Balfour studentship will be vacant at Michaelmas next. The names of applicants, together with such information as they may think desirable, should be sent on or before October 1 to the secretary, J. W. Clark, Registry of the University, Cambridge. The studentship is of the net annual value of 200*l.*, or such larger sum as the University may from time to time determine. The student need not be a member of the University, and during his tenure of the studentship is required to devote himself to original biological inquiry.

The Vice-Chancellor announces that the advisory committee of the Colonial Office for the tropical diseases research fund recommends that a grant of 100*l.* for two years should be made from the fund to assist in establishing a research studentship in medical entomology in Cambridge, and that Lord Elgin is prepared to approve of the proposal. Candidates for the studentship are requested to send in their applications to Prof. Nuttall, 3 Cranmer Road, Cambridge, on or before Monday, June 17.