

to, and many stars were determined by Professor Bessel for this purpose. In reducing the observations, parallax and the differences of refraction were taken into account. Finally, all the observations which could be depended upon, those of Messier, Maraldi, Cassini, Bradley, Hell, and Darquier, were combined and made use of by the method of least squares. The elements resulting from this comparison are compared with Messier's observations, and the differences do not exceed half a minute in space. Mr. Lubbock finds the differences between his elements and those of M. Rosenberger more considerable than he had expected, especially the eccentricity: they are, however, of the order of the uncertainty which must exist in the calculation of the perturbations of the elements, between 1759 and 1835, and therefore practically of little importance.

It is to be regretted that M. Rosenberger has not used the semiaxis major of M. de Pontécoulant. He has, however, computed the variation of the elements produced by a small change in the semiaxis major, whence, adopting the value given by M. de Pontécoulant, the elements of the orbit are

Semiaxis major.....	18·0763	
Eccentricity	·96766333	
Perihelion passage, 1759, March	13·0763	Mean time from Paris midnight.
Longitude of ascending node	53° 47' 47",19	
Distance of perihelion from node	110 37 27 ,90	
Inclination of orbit	17 21 44	

Mr. Lubbock is, however, inclined to doubt whether this method is applicable, except when the change in the semiaxis major is very minute.

“ This comet is one of those which most nearly approach the orbit of the earth. When in one of its nodes, it may be at a distance from us equal to $\frac{1}{20}$ of our distance from the sun; but the mass is so small, that a much nearer approach would give no just cause for alarm.

“ It is to be hoped that ephemerides of this comet will be given for 1835, calculated upon at least three different hypotheses, with respect to its perihelion passage, in order that astronomers may know the lines in which to sweep for it each day, so that it may be detected as early as possible.”

VII. A Letter from Mr. Herapath to the President, announcing the discovery of a comet.

“ The first sight I had of the comet was on the 7th of January, on Hounslow Heath, about 6 A.M. The tail was then nearly perpendicular to the horizon, inclining towards the south, and of a white colour, apparently between 1° and 2° long. The head was of the same colour as the tail, but, in proportion, far more splendid. To me, it appeared to equal in light stars of the second magnitude, while it exceeded them in size.”

Mr. Herapath took its distance with a sextant from two bright

stars, and found the distance of the comet from Arcturus $60^{\circ} 50'$, and from α Lyræ $52^{\circ} 45'$, (the latter observation a little uncertain), at about $6^{\text{h}} 30^{\text{m}}$ mean solar time.

From these observations, Mr. Herapath concludes, as an approximate place of the comet,

Jan. 7. $6^{\text{h}} 30^{\text{m}}$ A.M. $\text{R } 17^{\text{h}} 36^{\text{m}} 44^{\text{s}}$ S. Dec. $12^{\circ} 33'$

An observation made by Sir James South, about 48 hours afterwards, gives

$\text{R } 17^{\text{h}} 27^{\text{m}} 57^{\text{s}}$ S. Dec. $12^{\circ} 1' 12''$

LONDON :—J. MOYES, TOOK'S COURT, CHANCERY LANE.