

numerous to yield an accurate orbit. It may, however, be assumed, pretty safely, that it has been observed near its greatest elongation, *i. e.* that the apparent semi-axis is between 17" and 18"; in which case it must have a period somewhere about 3 or 4 days.

Now the satellite has, approximately at least, always been observed at the same part of its orbit, and hence the intervals of 24, 27, and 12 days, must, approximately, be multiples of the periodic time. The hypothesis of a period of 3 days, which first presents itself (or more accurately, from the observations of Oct. 8 and Dec. 10, 2^d 23^h 45^m), M. Struve finds wholly incompatible with the observation of Dec. 9, and he prefers a period of 4 days (more accurately, 3^d 22^h 10^m); which, admitting a slight error on Nov. 1, agrees equally well with the observations. This result also accords better with the presumed mass of the planet; for the first period and greatest distance, 17".5, gives the mass $\frac{1}{15480}$, larger than Bouvard's, while the second period assigns $\frac{1}{26860}$ to the mass, somewhat less than Lamont's, but yet a tolerable approximation to it.

The difference between M. O. Struve's period for this satellite, and that of 5^d 21^h 25^m, assigned to Sir W. Herschel's, is considered by M. O. Struve to be due to an erroneous estimate of the semi-axis. He has no doubt of the identity of the two objects.

After remarking that the foregoing observations completely prove the existence of Herschel's 1st supplementary satellite, M. Struve remarks that the visibility of this satellite depends less upon the aperture of the telescope employed than on the sharpness of the image shewn. All the telescopes, in his opinion, which will shew I and II, are *large* enough to shew i, if they are *good* enough. It is not fainter than the other two, but, from its greater proximity to *Uranus*, requires better defining power and freedom from stray light.

M. O. Struve has not hitherto seen any other supplementary satellite, but he remarks that the position of *Uranus* is every year becoming more favourable for this inquiry; and there can be little doubt of their speedy rediscovery, so far as they actually exist.

MISS MITCHELL'S COMET.

Observations.

HAMBURG.		(M. Rümker.)	
1847.	Hamburg M.T. h m s	R.A. ° ' "	N.P.D. ° ' "
Dec. 11	18 6 34.0	227 55 12.6	98 44 40.5
17	18 7 6.5	229 25 22.0	93 44 17.6
18	17 34 54.4	40 11.7	92 55 49.9
19	18 3 24.7	229 56 5.0	92 5 1.7