preceding rule, which supposes the place of the node stationary, and that the Earth and Venus revolve round the Sun with *uniform* velocities—hypotheses which are not strictly correct. In order, therefore, to ascertain whether a transit will actually occur at these times or not, it will be necessary to calculate strictly the heliocentric longitude and latitude, and thence the geocentric longitude and latitude at the time of conjunction; then, if the geocentric latitude be less than the sum of the apparent semi-diameters of Venus and the Sun, a transit will certainly take place. The present position of Venus's nodes, is such that transits can only happen in June and December. The next four will take place December 8th, 1874, December 6th, 1882, June 7th, 2004, June 5th, 2012.

APPROXIMATE TIME OF CONJUNCTION IN LONGITUDE.

ART. 2.—From the Tables of Venus^{*} and the Sun[†], we find the heliocentric longitude of the Earth and Venus to be as follows :—

Greenwich Mean Time.	Earth's Heliocen. Long.	Venus's Heliocen, Long.
Dec. 8th, 0h. (noon)	76° 17′ 33″.5	75° 52' 55″.1
Dec. 9th, 0h. "	77° 18′ 34″.3	77° 29' 40″.6

From which it is seen that conjunction in longitude takes place between the noons of the 8th and 9th December.

The daily motion of the Earth = $1^{\circ} 1' 0''.8$.

The daily motion of Venus $= 1^{\circ} 36' 45''.5$.

Therefore Venus's daily gain on the Earth = 35' 44''.7, and the difference of longitude of the Earth and Venus at December 8th, 0h.=24' 38''.4, therefore we have

35' 44".7 : 24' 38".4 : : 24h. : 16h. 32m.

Hence the approximate time of conjunction in longitude is December 8th, 16h. 32m.

* Tables of Venus, by G. W. Hill, Esq., of the Nautical Almanac Office, Washington, U. S.

† Solar Tables, by Hausen and Olufsen: Copenhagen, 1853. Delambre's Solar Tables. Leverrier's Solar Tables, Paris.