The Blacksmith will find all articles in his line

Transits of Venus.

Venus revolves round the Sun in about seven and a half of our months, at the distance of about 66,000,000 of miles, while that of the Earth is about 92,000,000. The plane of Venus' orbit cuts that of the Earth's at an angle of only 3° 23′ 30″; and though Venus crosses the Earth's plane twice in each of its years, it is only at long intervals that the Earth is in a line with Venus and the Sun at the hour of this intersection—when that planet is seen crossing the face of the Sun, like a small round black spot. These transits occur at regular intervals of 121½ years, 8 years, 105½ years, and 8 years; then 121½ again. The first that was observed was on December 6, 1639; the next on June 3, 1761; and the last on June 3, 1769, one century ago. The next will occur in December, 1874, after a lapse of 105½ years from the last. In 1769, such a deep interest was felt in the expected transit, and in the questions of science it would help decide, that the European sovereigns sent out scientific observers to Lapland and Kamtchatka, to St. Helena, India, and the Cape of Good Hope, and the celebrated Capt. Cook to the Sandwich Islands. A deeper and more general interest will doubtless be shown in the approaching transit in 1874.

That in December 6, 1639, was witnessed by only two observers, young men in England. One of these, a curate named Horrox, only twenty years old, suspecting errors in Kepler's tables—who, with Galileo and Hevelius, asserted there would be no transit till 1761—went over the calculations with great care, and made sure of the result only in time to make it known to a friend named Crabtree. December 6 was the Sabbath; and with the keenest eagerness Horrox watched the Sun through his telescope from sunrise till the hour of public worship, which with real heroism he devoutly attended, and in the afternoon resumed his watching. The sky was somewhat clouded, but became clear before sunset, and to his unbounded delight Horrox found his calculations correct! a beautifully rounded globe was slowly crossing the Sun's disc! For half an hour he gazed on the sight, never before seen by man, and took several measurements. His friend Crabtree also caught a few moments' view of the transit, but was too much absorbed and excited to make any observations.

Planetary Notes.

Mercury will be at stations favorable for being visible March 3, July 1, October 22, being then in the east just before sunrise; also January 15, May 8, September 4, and December 29 being then low in the west soon after sunset. The planet is brightest at these times. Venus will be brightest January 17 and March 30. Mars not coming to the opposition this year, will not be brightest. Jupiter brightest December 13, rising at sunset. Saturn brightest June 16, rising at sunset.

The Four Seasons.

Winter begins 1869, Dec. 21, 1h. 8m. even., and lasts 89d. 1h. 16m.
Spring begins 1870, March 20, 2h. 24m. even., and lasts 92d. 20h. 24m.
Summer begins 1870, June 21, 10h. 48m. morn., and lasts 93d. 11h. 13m.
Autumn begins 1870, Sep. 23, 1h. 1m. morn., and lasts 89d. 18h. 4m.
Winter begins 1870, Dec. 21, 7h. 5m. even., Trop. year, 365d. 5h. 57m

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