The possibility of determining by calculation, even approximatively, the epoch of such a cosmical event, which it is supposed would be at the same time the epoch of the formation of the small planets, remains more than doubtful, from the complication produced by the already large number of the "fragments" known, the peculiar retrogression of the apsides, and motion of the nodes.* Olbers describes the region of the nodes of the orbits of Ceres and Pallas as corresponding to the northern wing of the Virgin and the constellation of the Whale. Certainly Juno was discovered in the latter by Harding, though accidentally, in the construction of a star-catalogue, scarcely two years after the discovery of Pallas, and even Vesta in the latter, after a long search during five years, conducted upon hypothesis. This is not the place to determine whether these results alone are sufficient to establish the hypothesis. The cometary clouds, in which the small planets were at first supposed to be enveloped, have disappeared on investigation with more perfect instruments. The considerable changes of light to which they were said to be subject were ascribed by Olbers to their irregular figure as being "fragments of a single destroyed planet."†

JUPITER.

The mean distance of Jupiter from the Sun, expressed in fractional parts of the Earth's distance from the central body, amounts to 5·202767. The true mean diameter of this planet, the largest of all, is 77,176 geographical miles; equal, therefore, to 11·255 terrestrial diameters, about one fifth greater than the diameter of the more remote Saturn. His sidereal revolution occupies 11y. 314d. 20h. 2m. 7s.

The flattening of Jupiter, according to the measurements by Arago with the prismatic micrometer (which were introduced into the *Exposition du Système du Monde*, p. 38), is as 167 : 177, consequently $\frac{1}{17 \cdot 7}$, which agrees very closely with the later determination (1839) of Beer and Mädler,‡

* Gauss, *Monatl. Corresp.*, bd. xxvi., p. 299.

† Mr. Daniel Kirkwood (of the Pottsville Academy) has ventured upon the undertaking of restoring the exploded primitive planet from the fragmentary remains in the same manner as the animals of the primitive Earth. He finds for it a diameter greater than Mars (of more than 4320 geographical miles), and the slowest rotation of all the principal planets—a length of day of fifty-seven hours and a half. (*Report of the British Assoc.*, 1850, p. xxxv.)

‡ Beer and Mädler, *Beiträge zur Phys. Kenntniss der Himl. Körper*, p. 104–106. Older and less certain observations by Hussey gave $\frac{1}{24}$.