

In the enumeration of the 22 principal planets, of which 6 only were known before the 13th of March, 1781, the 14 *small planets*, which are sometimes termed *co-planets* or *asteroids*, and describe intersecting orbits between Mars and Jupiter, have been distinguished from the 8 *larger planets* by the use of smaller type.

The following occurrences constitute *main epochs* in the more recent history of planetary discoveries. The discovery of Uranus, as the first planet beyond Saturn's orbit, by William Herschel, at Bath, on the 13th of March 1781, who recognized it by its motion and disk-like form; the discovery of Ceres—the first observed of the smaller planets—on the 1st of January, 1801, by Piazzi, at Palermo; the recognition of the first interior comet, by Encke, at Gotha, in August, 1819, and the prediction of the existence of Neptune by Leverrier, at Paris, in August, 1846, by the calculation of planetary disturbances, as well as the discovery of Neptune by Galle, at Berlin, on the 23d of September, 1846. These important discoveries have not only tended directly to extend and enrich our knowledge of the solar system, but have further led to numerous other discoveries of a similar nature; as, for instance, to the knowledge of five other interior comets (of Biela, Faye, De Vico, Brorsen, and D'Arrest, between 1826 and 1851), and of thirteen small planets, three of which, Pallas, Juno, and Vesta, were discovered from 1801 to 1807, and after an interval of fully thirty-eight years, since Hencke's fortunate and preconceived discovery of Astræa, on the 8th of December, 1845, the nine others were discovered, in rapid succession, by Hencke, Hind, Graham, and De Gasparis, from 1845 to the middle of 1851. The attention of observers has of late been so extensively directed to the cometary world, that the orbits of thirty-three newly-discovered comets have been calculated during the last eleven years; hence, nearly as many as had been determined during the previous forty years of this century.