

These discoveries have been distributed among the observatories of Europe. The bright sky of Naples has revealed seven new planets to the telescope of Signor Gasparis. Marseilles has given us one; Germany, four, discovered by M. Luther at Bilk; Paris has furnished seven; and Mr. Hind, in Mr. Bishop's private observatory in London, notwithstanding our turbid skies, has discovered no less than ten planets; and there also Mr. Marth discovered (20) Amphitrite. Mr. Graham, at the private observatory of Mr. Cooper, in Ireland, discovered (9) Metis.

America has supplied its planet, namely (31) Euphrosyne, discovered by Mr. Ferguson at Washington; and the most recent of these discoveries is that by Mr. Pogson, of Oxford, who has found the forty-second of these Minor Planets, which has been named Isis.⁶

I may add that it appears to follow from the best calculations that the total mass of all these bodies is very small. Herschel reckoned the diameters of Ceres at 35, and of Pallas at 26 miles. It has since been calculated⁶ that some of them are smaller still; Victoria having a diameter of 9 miles, Lutetia of 8, and Atalanta of little more than 4. It follows from this that the whole mass would probably be less than the sixth part of our moon. Hence their perturbing effects on each other or on other planets are null; but they are not the less disturbed by the action of the other planets, and especially of Jupiter.

Anomalies in the Action of Gravitation.

The complete and exact manner in which the doctrine of gravitation explains the motions of the Comets as well as of the Planets, has made astronomers very bold in proposing hypotheses to account for any deviations from the motion which the theory requires. Thus Encke's Comet is found to have its motion accelerated by about one-eighth of a day in every revolution. This result was conceived to be established by former observations, and is confirmed by the facts of the appearance of 1852.⁷ The hypothesis which is proposed in order to explain this result is, that the Comet moves in a resisting medium, which makes it fall inwards from its path, towards the Sun, and thus, by narrowing its orbit, diminishes its periodic time. On the other hand, M. Le Verrier has found that Mercury's mean motion has gone on diminishing;

⁶ I take this list from a Memoir of M. Bruhns, Berlin, 1856.

⁶ Bruhns, as above.

⁷ *Berlin Memoirs*, 1854.