

the appearance of a ground glass lamp—the light always becoming fainter and fainter, till it at last seemed to pass away from view from mere faintness. All this while, however, there was a sort of smaller and much brighter *interior comet* visible, with a tail-like appendage, which seemed to be as it were a conducting channel by which the matter of the newly-forming head was gradually retreating back into the centre.

(29.) The discovery of the periodical return of Halley's comets forms an epoch in the history of their bodies. Since that time a great many more have been ascertained to return at regular intervals. I will mention some of the most remarkable cases of this kind.

(30.) In 1770 a comet appeared which proved rebellious to the then adopted system of calculation, which set out with assuming the orbit to be a parabola. It very soon appeared, by the calculations of M. Lexell, that the real orbit was an ellipse, and that not a very eccentric one. In fact, all the observations were perfectly consistent with an ellipse nearly coincident with the plane of the earth's orbit, of such dimensions as that the extreme excursion from the sun would carry it over a little beyond the orbit of Jupiter, and its nearest approach would bring it within that of Venus—the time of its revolution being $5\frac{1}{2}$ years. Here was quite a new fact. All other comets then known had run out to limits far beyond our system—since even Halley's, with its period of 76 years at its greatest distance from the sun, passed very far beyond the orbit of Saturn, the most distant planet then known, and in fact beyond the two since discovered, Uranus and