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ing its own independent orbit, and each reflecting to the eye its quota of the solar light.\*

(44.) A very striking feature in Professor Bond's engravings, which he describes as frequently and certainly observed in America, and which did not pass wholly unnoticed in Europe, consists in the appearance of one, and on some nights two, excessively faint, narrow, and perfectly straight rays of light, or "secondary tails," starting off from the main tail on its preceding or anterior side (that towards which the comet was advancing, and which side was always the brightest, sharpest, and best defined) in the direction of tangents to its curvature at points very near the head, and extending on some nights (on the 4th, 5th, and 6th of October) to a much greater length than the primary or more luminous tail. These appearances were presented from the 28th September to the 11th of October with more or less distinctness. They are peculiarly instructive, as they clearly indicate an *analysis of the cometic matter by the sun's repulsive action*—the matter of the secondary tails being evidently darted off with incomparably greater velocity (indicating an incomparably greater intensity of repulsive energy) than that which went to form the primary one. The primary tail also presented another feature, frequently, indeed almost always, observed in comets, viz.,

\* Some anomalous appearances in the early development of the tail in this comet, which was slightly curved, even when the earth was in the plane of the orbit, can by no means be regarded as fatal to this explanation of the general phænomenon, as they might have originated in a lateral direction of projection of the caudal matter from the nucleus *in ipso motus initio*.