

stones with velocities exceeding that of a cannon ball. Light is disengaged, as when the cannon ball strikes the iron target; and thus the whole cometary train is lighted up. The nearer it approaches the powerfully attractive bodies of our system, the greater these disturbances become—the intenser the luminosity—the more extended and the more widened the train of finer materials. But do not think this train of stones is the so-called luminous “tail” of the comet. The tail always turns away from the sun; the dark train follows in the path of the comet. The cause of the tail is yet a mystery. It may be a smoke of luminous particles driven off by the intense heat of the sun.

The comets all have to make a journey around the sun. Some of them remain in our system and subject themselves to the laws of the planetary family; but others can not be induced to stay; they rush onward with such velocity that all the power of the sun and planets is not sufficient to stop them. They launch out from our remotest shore, on the limitless ocean of space which stretches to the shores of other systems, and stretches beyond, farther than imagination can picture. But the comet which becomes domiciled in our system seems gradually to undergo disintegration, and by and by its borders are spread so far as to brush the atmosphere of some planet when passing near it. Our atmosphere has been thus pierced by the outlying constituents of certain cometary trains. Sometimes countless thousands of them shoot through the air. These missiles move with a velocity as high as twenty to forty miles a second, and the friction and condensation resulting develop sufficient heat to render the missile luminous.

We call it a meteor. We had not contemplated the meteor as a burning fragment of an old decayed comet. But some of our most splendid meteoric displays have resulted from clouds of meteoroidal bodies which have been quite certainly identified with recognized comets. At certain regular intervals, on or about the sixteenth of November, occurs a celebrated meteoric shower which comes from a meteoroidal train or cloud that has been identified with Tempel's comet—the first one observed