

sentation of universal space, it is necessary to call to mind the *difference* of the members of the solar system, which by no means excludes similarity of *origin* and lasting dependence upon the moving forces.

Great as is the obscurity which still envelops the material cause of the zodiacal light, still, however, with the mathematical certainty that the solar atmosphere can not reach beyond $\frac{9}{20}$ of the distance of Mercury, the opinion supported by Laplace, Schubert, Arago, Poisson, and Biot, according to which the zodiacal light radiates from a vapory, flattened ring, freely revolving in space between the orbits of Venus and Mars, appears in the very deficient state of observation to be the most satisfactory. The outermost limits of the Sun's atmosphere, like that of Saturn (a subordinate system), could only extend to that point where the attraction of the universal or partial central body exactly balanced the centrifugal force; beyond this point the atmosphere must escape at a tangent, and continue its course either aggregated into spherical planets and satellites, or, when not aggregated into spheres, as solid and vaporous rings. From this point of view the *ring of the zodiacal light* comes within the category of planetary forms, which are subject to the universal laws of formation.

From the small progress which this neglected part of our astronomical knowledge makes on the path of observation, I have little to add to that which I derived from the experience of others and myself, and have previously developed in the *Delineation of Nature* (vol. i., p. 127–134; vol. iv., p. 308). If, 22 years before Dominique Cassini, to whom the first detection of the zodiacal light is erroneously ascribed, Childrey, the chaplain of Lord Henry Somerset, had already recommended this phenomenon to the attention of astronomers in his *Britannica Baconica*, published in 1661, as one which had previously been unnoticed and observed by him during several years, in February and the commencement of March, so must I also mention (according to a remark of Olbers) a letter which Rothmann wrote to Tycho, from whence it results that Tycho saw the zodiacal light as early as the end of the sixteenth century, and considered it to be an abnormal spring-evening twilight. The strikingly greater luminous intensity of this phenomenon in Spain, upon the coasts of Valencia and the plains of New Castile, first incited me to continuous observation before I left Europe. The strength of the light—it might almost be called illumination—increased