computation. He has annexed to his paper a skeleton form of computation adapted to his arrangement of the tables, and has placed it in juxtaposition with the form used by the computers of the *Nautical Almanac*.

III. Thoughts on Shooting Stars and Comets, suggested by the perusal of Mr. Galloway's paper on the subject, read before the Society on January 8, 1841. By S. M. Drach, Esq.

The greatest ascertained height of those meteors above the earth's surface appears to be 550 miles, or $\frac{1}{7.2}$ of the earth's radius, and if the moon be supposed to be distant 60 radii of the earth from the centre of our globe, and its relative mass to be $\frac{1}{80}$, the ratio of the lunar to the terrestrial attraction at the above-named height would be as 1:213690; and consequently the lunar gravity may be neglected. The visible path of a meteor would be, therefore, some conic section concave to the earth's centre, the particular kind of section depending on the initial circumstances of projection. The paths of different meteors have been found, however, to be sometimes *convex*, and even *serpentine*, which may be accounted for by supposing them to be very light cometary bodies deflected by the ether; the ethereal resistance increasing very rapidly with the velocity, and depending on the anterior surface of non-spherical bodies opposed to it. The author remarks that this theory of lunar emission might be easily tested by the method of quadratures, which is found so useful in the cometary theory.

If we assume with Chladni and others that these meteoric bodies move in distinct groups or zones, we may conceive each group as having a distinct orbit round the sun, and as intersecting the ecliptic in a different point; and, allowing the probability of their having every variety of motion, and of inclination and eccentricity of orbit, the different times of appearance of these bodies, as well as their great velocity, might be accounted for. If, in addition, we assume that the groups have a rotary motion independently of their motion of translation, the great velocity attributed to them in M. Wartmann's observations will be accounted for.

A further argument in favour of their cometary origin is derived from their trains, and their apparent self-luminosity, analogous to the non-appearance of phases in comets. The author thinks it not impossible that part of their light is owing to electricity, and suggests a method of discovering the velocity of the electric fluid (assuming that the light of comets of short period is partly owing to this cause) by means of the difference of the aberrations which would result from the difference between the velocity of their intrinsic light and of that which they derive from the sun, and which would cause an apparent flattening or elongation of the semi-nucleus which is turned from that luminary.