

as a "proper motion," or slow progressive movement *proper to itself* as an individual: smaller indeed than those already specified in its apparent amount, but by no means inconsiderable, being sufficient to displace it by about two minutes in angle or one-fifteenth part of the apparent diameter of the moon *per century*: corresponding at the distance of the star to no less an amount of actual linear travel than 1,900,000 miles *per diem*. This movement, in the absence of all apparent reason to the contrary, was of course presumed to be uniform and rectilinear; but as instruments improved, as observations became more exact, and their calculation more scrupulous and refined, this became at first doubtful, and at length demonstrably incorrect. Not to dwell on the steps of the proof, it became apparent that the visible path of the star, mapped down from year to year and from century to century, is not a straight line, but is affected by a small and regularly recurring *undulation*, alternately carrying it to a small distance above and below the medial line, similar to those represented in Fig. 1: the performance of one complete undulation occupying about $49\frac{1}{4}$ years, and the excursions to and fro on either side of the medial line being about one-sixtieth part of the linear distance passed over in the same interval.

(36.) It was impossible to ascribe *this* phenomenon (as in the case of our star in the Swan) to parallax. Were this its origin, the undulations (as above explained) would be annual, instead of extending over a period of nearly fifty years; and moreover that cause of apparent