

to the celestial vault and carried round with it, such a thing is not to be supposed. In the total absence then of any information as to the velocity or direction of the real motions, we can only presume that such as appear to move fastest are nearest. The fact may be otherwise, but such at least is the *primâ facie* presumption. Now, while the stars in general exhibit an annual apparent proper motion averaging less than a second per annum, these two β Cygni and α Centauri, are carried annually from their places, by movements apparently rectilinear of $5''\cdot3$ and $3''\cdot6$ respectively : motions which would carry them away from their places through a space equal to the moon's apparent diameter in 339 and 499 years respectively. In point of fact, we find that they *are* nearer, so that a part at least of their great apparent motions *is* owing to proximity.

(27.) Such a uniformly progressive change of place complicates apparently, but not really, the microscopic process we have described. Being accurately known by long continued observation, both in amount and direction ; its effect in displacing the star among its neighbours is easily taken account of and allowed for. The combination of these two motions, the one real and rectilinear, and the other apparent and elliptic, will be readily understood from the accompanying diagram, where ab , bc , cd represent the former continued for three years ; e , f , g , the ellipses described in those years in virtue of the latter in the direction of the arrows ; and $h i k$ the sort of undulating line apparently described in virtue of them both going on together.