

relates to our solar system, whether we consider the rotation of double stars with unequal velocity round one common center of gravity, or the apparent or true movements of all the heavenly bodies. If we take up the physical description of the universe from the remotest nebulae, we may be inclined to compare it with the mythical portions of history. The one begins in the obscurity of antiquity, the other in that of inaccessible space; and at the point where reality seems to flee before us, imagination becomes doubly incited to draw from its own fullness, and give definite outline and permanence to the changing forms of objects.

If we compare the regions of the universe with one of the island-studded seas of our own planet, we may imagine matter to be distributed in groups, either as unresolvable nebulae of different ages, condensed around one or more nuclei, or as already agglomerated into clusters of stars, or isolated spheroidal bodies. The cluster of stars, to which our cosmical island belongs, forms a lens-shaped, flattened stratum, detached on every side, whose major axis is estimated at seven or eight hundred, and its minor one at a hundred and fifty times the distance of Sirius. It would appear, on the supposition that the parallax of Sirius is not greater than that accurately determined for the brightest star in the Centaur ($0''\cdot9128$), that light traverses one distance of Sirius in three years, while it also follows, from Bessel's earlier excellent Memoir* on the parallax of the remarkable star 61 Cygni ($0''\cdot3483$), (whose considerable motion might lead to the inference of great proximity), that a period of nine years and a quarter is required for the transmission of light from this star to our planet. Our starry stratum is a disk of inconsiderable thickness, divided a

* See Maclear's "Results from 1839 to 1840," in the *Trans. of the Astronomical Soc.*, vol. xii., p. 370, on α Centauri, the probable mean error being $0''\cdot0640$. For 61 Cygni, see Bessel, in Schumacher's *Jahrbuch*, 1839, s. 47, and Schumacher's *Astron. Nachr.*, bd. xviii., s. 401, 402, probable mean error, $0''\cdot0141$. With reference to the relative distances of stars of different magnitudes, how those of the third magnitude may probably be three times more remote, and the manner in which we represent to ourselves the material arrangement of the starry strata, I have found the following remarkable passage in Kepler's *Epitome Astronomiæ Copernicanæ*, 1618, t. i., lib. 1, p. 34-39: "*Sol hic noster nil aliud est quam una ex fixis, nobis major et clarior visa, quia propior quam fixa. Pone terram stare ad latus, una semi-diametro viæ lacteæ, tunc hæc via lactea apparebit circulus parvus, vel ellipsis parva, tota declinans ad latus alterum; eritque simul uno intuitu conspicua, quæ nunc non potest nisi dimidia conspici quovis momento. Itaque fixarum sphaera non tantum orbe stellarum, sed etiam circulo lactis versus nos deorsum est terminata.*"