

of Cepheus, and therefore near Cassiopeia (from which constellation we began our description of the Milky Way), toward Ursa Minor and the pole.

From the extraordinary advancement which the application of large telescopes has gradually effected in our knowledge of the sidereal contents and of the differences in the concentration of light observable in individual portions of the Milky Way, views of merely optical projection have been replaced by others referring rather to physical conformation. Thomas Wright, of Durham,* Kant, Lambert, and at first also Sir William Herschel, were disposed to consider the form of the Milky Way, and the apparent accumulation of the stars within this zone, as a consequence of the flattened form and unequal dimensions of the *world-island* (starry stratum) in which our solar system is included. The hypothesis of the uniform magnitude and distribution of the fixed stars has recently been attacked on many sides. The bold and gifted investigator of the heavens, Wm. Herschel, in his last works,† expressed himself strongly in favor of the assumption of an annulus of stars; a view which he had contested in the talented treatise he composed in 1784. The most recent observations have favored the hypothesis of a system of separate *concentric rings*. The thickness of these rings seems very unequal; and the different strata, whose combined stronger or fainter light we receive, are undoubtedly situated at very different altitudes, *i. e.*, at very unequal distances from us; but the relative brightness of the separate stars which we estimate as of the tenth to the sixteenth magnitude, can not be regarded as affording sufficient data to enable us in a satisfactory manner to deduce numerically from them the radius of their spheres of distances.‡

In many parts of the Milky Way, the space-penetrating power of instruments is sufficient to resolve whole star-clouds, and to show the separate luminous points projected on the dark, starless ground of the heavens. We here act-

* De Morgan has given an extract of the extremely rare work of Thomas Wright of Durham (*Theory of the Universe*, London, 1750), p. 241 in the *Philos. Magazine*, ser. iii., No. 32. Thomas Wright, to whose researches the attention of astronomers has been so permanently directed since the beginning of the present century, through the ingenious speculations of Kant and William Herschel, observed only with a reflector of one foot focal length.

† Pfaff, in *Will. Herschel's sämmtl. Schriften*, bd. i. (1826), s. 78-81; Struve, *Etudes Stell.*, p. 35-44.

‡ Encke, in *Schumacher's Astr. Nachr.*, No. 622, 1847 s. 341-346