

to such views because it will be necessary in the sequel that we should consider certain peculiarities of motion ascribed to Procyon, which appeared to indicate a disturbance from dark cosmical bodies. It is the object of the present portion of this work to notice the different directions to which scientific inquiry had inclined at the period of its composition and publication, and thus to indicate the individual character of an epoch in the sidereal as well as the telluric sphere.

The *photometric* relations (relations of brightness) of the self-luminous bodies with which the regions of space are filled, have for more than two thousand years been an object of scientific observation and inquiry. The description of the starry firmament did not only embrace determinations of places, the relative distances of luminous cosmical bodies from one another and from the circles depending on the apparent course of the sun and on the diurnal movement of the vault of heaven, but it also considered the relative intensity of the light of the stars. The earliest attention of mankind was undoubtedly directed to this latter point, individual stars having received names before they were arranged with others into groups and constellations. Among the wild tribes inhabiting the densely-wooded regions of the Upper Orinoco and the Atabapo, where, from the impenetrable nature of the vegetation, I could only observe high culminating stars for determinations of latitude, I frequently found that certain individuals, more especially old men, had designations for Canopus, Achernar, the feet of the Centaur, and  $\alpha$  in the Southern Cross. If the catalogue of the constellations known as the *Catasterisms* of Eratosthenes can lay claim to the great antiquity so long ascribed to it (between Autolycus of Pitane and Timocharis, and therefore nearly a

would destroy the amount of motion emitted from the luminous molecule, so that it would be invisible at great distances." If, with Sir William Herschel, we ascribe to Arcturus an apparent diameter of  $0''.1$ , it follows that the true diameter of this star is only eleven times greater than that of our sun. (*Cosmos*, vol. i., p. 148.) From the above considerations on one of the causes of non-luminosity, the velocity of light must be very different in cosmical bodies of different dimensions. This has, however, by no means been confirmed by the observations hitherto made. Arago says in the *Comptes Rendus*, t. viii., p. 326, "Les expériences sur l'égalité de déviation prismaticque des étoiles, vers lesquelles la terre marche ou dont elle s'éloigne, rend compte de l'égalité de vitesse apparente de toutes les étoiles." "Experiments made on the equal prismatic deviation of the stars toward which the earth is moving, and from which it is receding, explain the apparent equality of velocity in the rays of all the stars."