

surprisingly the more I approached the equator in South America and the South Sea. In the continually dry, clear air of Cumana, in the grass-steppes (*llanos*) of Caraccas, upon the elevated plains of Quito and the Mexican seas, especially at heights from eight to twelve thousand feet, where I could remain longer, the brightness sometimes exceeded that of the most beautiful sparks of the Milky Way, between the fore part of Argus and Sagittarius, or, to speak of our part of the hemisphere, between the Eagle and the Swan.

Upon the whole, the brightness of the zodiacal light did not appear to me to increase at all perceptibly with the *elevation* of the point whence it was seen, but much rather to depend *principally* upon the interior variability of the phenomenon itself—upon the greater or less intensity of the light-giving process, as is shown by my observations in the South Sea, in which, indeed, a reflection was remarked like that seen on the going down of the Sun. I say *principally*, since I do not deny the possibility of a simultaneous influence of the condition of the air (*greater or less diaphaneity*) of the higher strata of the atmosphere, while my instruments indicated in the lower strata no hygrometric variations, or, much rather, favorable ones. Advances of our knowledge of the zodiacal light are to be expected especially from the tropics, where the meteorological processes attain the highest degree of uniformity or regularity in the periodical recurrence of the changes. The phenomenon is there perpetual; and a careful comparison of observations at points of different elevation and under different local conditions, would, with the application of the theory of probabilities, decide what should be ascribed to cosmical light-processes, what to merely meteorological influences.

It has been repeatedly affirmed that in Europe scarcely any zodiacal light, or only a feeble trace of it, could be seen in several successive years. Has the light appeared proportionately weakened in such years in the equinoctial zone also? The investigation must not, however, be restricted to the statement of the configuration according to the distance from known stars or direct measurements. The intensity of the light, its uniformity or probable intermittence (*darting and flashing*), its analysis by the polariscope, should be especially investigated. Arago (*Annuaire* for 1836, p. 289) has already pointed out that the comparative observation of Dominique Cassini would perhaps clearly prove “*que la supposition des intermittences de la diaphanéité atmosphérique ne*