

shortly before an earthquake. These observations only refer to the serenely bright and rainless seasons of the year within the tropics, from  $10^{\circ}$  to  $12^{\circ}$  north and south of the equator. The phenomena of light exhibited at the commencement of the rainy season, during the sun's zenith-passage, depend on very general, yet powerful, and almost tempestuous causes. The sudden decrease of the northeast trade-wind, and the interruption of the passage of regular upper currents from the equator to the poles, and of lower currents from the poles to the equator, generate clouds, and thus daily give rise, at definite recurring periods, to storms of wind and torrents of rain. I have observed during several successive years that in regions where the scintillation of the fixed stars is of rare occurrence, the approach of the rainy season is announced many days beforehand by a flickering light of the stars at great altitudes above the horizon. This phenomenon is accompanied by sheet lightning, and single flashes on the distant horizon, sometimes without any visible cloud, and at others darting through narrow, vertically ascending columns of clouds. In several of my writings I have endeavored to delineate these precursory characteristics and physiognomical changes in the atmosphere.\*

The second book of Lord Bacon's *Novum Organum* gives us the earliest views on the velocity of light and the probability of its requiring a certain time for its transmission. He speaks of the time required by a ray of light to traverse the enormous distances of the universe, and proposes the

\* See *Voyage aux Régions Equin.*, t. i., p. 511 and 512, and t. ii., p. 202-208; also my *Views of Nature*, p. 16, 138.

“En Arabie, de même qu'à Bender-Abassi, port fameux du Golfe Persique, l'air est parfaitement serein presque toute l'année. Le printemps, l'été, et l'automne se passent, sans qu'on y voie la moindre rosée. Dans ces mêmes temps tout le monde couche dehors sur le haut des maisons. Quand on est ainsi couché, il n'est pas possible d'exprimer le plaisir qu'on prend à contempler la beauté du ciel, l'éclat des étoiles. C'est une lumière pure, ferme et éclatante, sans étincellement. Ce n'est qu'au milieu de l'hiver que la scintillation, quoique très foible, s'y fait apercevoir.”

“In Arabia,” says Garcin, “as also at Bender-Abassi, a celebrated port on the Persian Gulf, the air is perfectly serene throughout nearly the whole of the year. Spring, summer, and autumn pass without exhibiting a trace of dew. During these seasons all the inhabitants sleep on the roofs of their houses. It is impossible to describe the pleasure experienced in contemplating the beauty of the sky, and the brightness of the stars, while thus lying in the open air. The light of the stars is pure, steady, and brilliant; and it is only in the middle of the winter that a slight degree of scintillation is observed.”—Garcin, in *Hist. de l'Acad. des Sc.*, 1743, p. 30.