

by the particles of air placed between the mountains and the eye of the observer. As we withdraw from the isle of Teneriffe, the Piton or Sugar-loaf is seen for a considerable space of time in a *positive manner*, because it reflects a whitish light, and clearly detaches itself from the sky. But as this cone is only 80 toises high, by 40 in breadth at its summit, it has recently been a question whether, from the diminutiveness of its mass, it can be visible at distances which exceed 40 leagues; and whether it be not probable, that navigators distinguish the peaks as a small cloud above the horizon, only when the base of the Piton begins to be visible on it. If we admit, that the mean breadth of the Sugar-loaf is 100 toises, we find that the little cone, at 40 leagues distance, still subtends, in the horizontal direction, an angle of more than three minutes. This angle is considerable enough to render an object visible; and if the height of the Piton greatly exceeded its base, the angle in the horizontal direction might be still smaller, and the object still continue to make an impression on our visual organs; for micrometrical observations have proved that the limit of vision is but a minute only, when the dimensions of the objects are the same in every direction. We distinguish at a distance, by the eye only, trunks of trees insulated in a vast plain, though the subtended angle be under twenty-five seconds.

As the visibility of an object detaching itself in a brown colour, depends on the quantities of light which the eye meets on two lines, one of which ends at the mountain, and the other extends to the surface of the aerial ocean, it follows that the farther we remove from the object, the smaller the difference becomes between the light of the surrounding atmosphere, and that of the strata of air before the mountain. For this reason, when less elevated summits begin to appear above the horizon, they present themselves at first under a darker hue than those we discern at very great distances. In the same manner, the visibility of mountains seen only in a negative manner, does not depend solely on the state of the lower regions of the air, to which our meteorological observations are limited, but also on the transparency and physical constitution of the air in the most elevated parts; for the image detaches itself better in proportion as the aerial light, which comes from the limits of the atmosphere, has been