

the illusion soon ceased, and we found that the luminous points were the images of several stars magnified by the vapours. These images remained motionless at intervals, they then seemed to rise perpendicularly, descended sideways, and returned to the point whence they had departed. This motion lasted one or two seconds. Though we had no exact means of measuring the extent of the lateral shifting, we did not the less distinctly observe the path of the luminous point. It did not appear double from an effect of mirage, and left no trace of light behind. Bringing, with the telescope of a small sextant by Troughton, the stars into contact with the lofty summit of a mountain in Lancerota, I observed that the oscillation was constantly directed towards the same point, that is to say, towards that part of the horizon where the disk of the sun was to appear; and that, making allowance for the motion of the star in its declination, the image returned always to the same place. These appearances of lateral refraction ceased long before daylight rendered the stars quite invisible. I have faithfully related what we saw during the twilight, without undertaking to explain this extraordinary phenomenon, of which I published an account in Baron Zach's *Astronomical Journal*, twelve years ago. The motion of the vesicular vapours, caused by the rising of the sun; the mingling of several layers of air, the temperature and density of which were very different, no doubt contributed to produce an apparent movement of the stars in the horizontal direction. We see something similar in the strong undulations of the solar disk, when it cuts the horizon; but these undulations seldom exceed twenty seconds, while the lateral motion of the stars, observed at the peak, at more than 1800 toises, was easily distinguished by the naked eye, and seemed to exceed all that we have thought it possible to consider hitherto as the effect of the refraction of the light of the stars. On the top of the Andes, at Antisana, I observed the sun-rise, and passed the whole night at the height of 2100 toises, without noting any appearance resembling this phenomenon.

I was anxious to make an exact observation of the instant of sun-rising at an elevation so considerable as that we had reached on the peak of Teneriffe. No traveller, furnished