

trees twenty-two feet and a half in diameter near the roots. These ligneous ridges sometimes separate from the trunk at a height of eight feet, and are transformed into cylindrical roots two feet thick. The tree looks as if it were supported by buttresses. This scaffolding however does not penetrate very deep into the earth. The lateral roots wind at the surface of the ground, and if at twenty feet distance from the trunk they are cut with a hatchet, we see gushing out the milky juice of the fig-tree, which, when deprived of the vital influence of the organs of the tree, is altered and coagulates. What a wonderful combination of cells and vessels exist in these vegetable masses, in these gigantic trees of the torrid zone, which without interruption, perhaps during the space of a thousand years, prepare nutritious fluids, raise them to the height of one hundred and eighty feet, convey them down again to the ground, and conceal, beneath a rough and hard bark, under inanimate layers of ligneous matter, all the movements of organic life!

I availed myself of the clearness of the nights, to observe at the plantation of Tuy two emersions of the first and third satellites of Jupiter. These two observations gave, according to the tables of Delambre, long. $4^{\text{h}} 39' 14''$; and by the chronometer I found $4^{\text{h}} 39' 10''$. During my stay in the valleys of the Tuy and Aragua the zodiacal light appeared almost every night with extraordinary brilliancy. I had perceived it for the first time between the tropics at Caracas, on the 18th of January, after seven in the evening. The point of the pyramid was at the height of 53° . The light totally disappeared at $9^{\text{h}} 35'$ (apparent time), nearly $3^{\text{h}} 50'$ after sunset, without any diminution in the serenity of the sky. La Caille, in his voyage to Rio Janeiro and the Cape, was struck with the beautiful appearance displayed by the zodiacal light within the tropics, not so much on account of its less inclined position, as of the greater transparency of the air.* It may appear singular, that Childrey and Dominic Cassini, navigators who were well acquainted with the seas of the two Indies, did not at a much earlier period direct the attention of scientific Europe to this light, and its regular form and progress. Until the middle of the

* The great serenity of the air caused this phenomenon to be remarked, in 1668, in the arid plains of Persia.