

the zenith can have so powerful an influence on the meteorological variations? I am of opinion that no local cause determines the commencement of the rains within the tropics; and that a more intimate knowledge of the higher currents of air will elucidate these problems, so complicated in appearance. We can observe only what passes in the lower strata of the atmosphere. The Andes are scarcely inhabited beyond the height of two thousand toises; and at that height the proximity of the soil, and the masses of mountains, which form the shoals of the aërial ocean, have a sensible influence on the ambient air. What we observe on the table-land of Antisana is not what we should find at the same height in a balloon, hovering over the Llanos or the surface of the ocean.

We have just seen that the season of rains and storms in the northern equinoctial zone coincides with the passage of the sun through the zenith of the place,* with the cessation of the north-east breezes, and with the frequency of calms and *bendavales*, which are stormy winds from south-east and south-west, accompanied by a cloudy sky. I believe that, in reflecting on the general laws of the equilibrium of the gaseous masses constituting our atmosphere, we may find, in the interruption of the current that blows from an homonymous pole, in the want of the renewal of air in the torrid zone, and in the continued action of an ascending humid current, a very simple cause of the coincidence of these phenomena. While the north-easterly breeze blows with all its violence north of the equator, it prevents the atmosphere which covers the equinoctial lands and seas from saturating itself with moisture. The hot and moist air of the torrid zone rises aloft, and flows off again towards the poles; while inferior polar currents, bringing drier and colder strata, are every instant taking the place of the columns of ascending air. By this constant action of two opposite currents, the humidity, far from being accumulated in the equatorial region, is carried towards the cold and temperate regions. During this season of breezes, which is that when the sun is in the southern signs, the

* These passages take place, in the fifth and tenth degrees of north lat. between the 3rd and the 16th of April, and between the 27th of August and the 8th of September.