

the villages of Parapara and Ortiz. It grows very narrow in several parts. Basins, the bottoms of which are perfectly horizontal, communicate together by narrow passes with steep declivities. They were, no doubt, formerly small lakes, which, owing to the accumulation of the waters, or some more violent catastrophe, have broken down the dykes by which they were separated. This phenomenon is found in both continents, wherever we examine the longitudinal valleys forming the passages of the Andes, the Alps,* or the Pyrenees. It is probable, that the irruption of the waters towards the Llanos have given, by extraordinary rents, the form of ruins to the Morros of San Juan and of San Sebastian. The volcanic tract of Parapara and Ortiz is now only 30 or 40 toises above the Llanos. The eruptions consequently took place at the lowest point of the granitic chain.

In the Mesa de Paja, in the ninth degree of latitude, we entered the basin of the Llanos. The sun was almost at its zenith; the earth, wherever it appeared sterile and destitute of vegetation, was at the temperature of 48° or 50° .† Not a breath of air was felt at the height at which we were on our mules; yet, in the midst of this apparent calm, whirls of dust incessantly arose, driven on by those small currents of air which glide only over the surface of the ground, and are occasioned by the difference of temperature between the naked sand and the spots covered with grass. These sand-winds augment the suffocating heat of the air. Every grain of quartz, hotter than the surrounding air, radiates heat in every direction; and it is difficult to observe the temperature of the atmosphere, owing to these particles of sand striking against the bulb of the thermometer. All around us the plains seemed to ascend to the sky, and the vast and profound solitude appeared like an ocean covered with sea-weed. According to the unequal mass of vapours diffused through the atmosphere, and the variable decrement in the temperature of the different strata of air, the horizon in some parts was clear and distinct; in other parts it appeared undulating, sinuous, and as if striped.

* For example, the road from the valley of Ursern to the Hospice of St. Gothard, and thence to Airolo.

† A thermometer, placed in the sand, rose to 38.4° and 40° Reaumur.