

the quantity of rain, as well as the temperature, diminishes with the increase in the elevation.* My South American fellow-traveler, Caldas, found that, at Santa Fé de Bogota, at an elevation of almost 8700 feet, it did not exceed 37 inches, being consequently little more than on some parts of the western shore of Europe. Boussingault occasionally observed at Quito that Saussure's hygrometer receded to 26° with a temperature of from $53^{\circ}\cdot 6$ to $55^{\circ}\cdot 4$. Gay-Lussac saw the same hygrometer standing at $25^{\circ}\cdot 3$ in his great aërostatic ascent in a stratum of air 7034 feet high, and with a temperature of $39^{\circ}\cdot 2$. The greatest dryness that has yet been observed on the surface of the globe in low lands is probably that which Gustav Rose, Ehrenberg, and myself found in Northern Asia, between the valleys of the Irtisch and the Oby. In the Steppe of Platowskaja, after southwest winds had blown for a long time from the interior of the Continent, with a temperature of $74^{\circ}\cdot 7$, we found the dew point at 24° . The air contained only $\frac{1}{1000}$ ths of aqueous vapor.† The accurate observers Kämtz, Bravais, and Martins have raised doubts during the last few years regarding the greater dryness of the mountain air, which appeared to be proved by the hygrometric measurements made by Saussure and myself in the higher regions of the Alps and the Cordilleras. The strata of air at Zurich and on the Faulhorn, which can not be considered as an elevated mountain when compared with non-European elevations, furnished the data employed in the comparisons made by these observers.‡ In the tropical region of the Paramos (near the region where snow begins to fall, at an elevation of between 12,000 and 14,000 feet), some species of large flowering myrtle-leaved alpine shrubs are almost constantly bathed in moisture; but this fact does not actually prove the existence of any great and absolute quantity of aqueous vapor at such an elevation, merely affording

and 264; *Tableau du Climat de l'Italie*, p. 76; and Martins's notes to his excellent French translation of Kämtz's *Vorlesungen über Meteorologie*, p. 142.

* According to Boussingault (*Economie Rurale*, t. ii., p. 693), the mean quantity of rain that fell at Marmato (latitude $5^{\circ} 27'$, altitude 4675 feet, and mean temperature 69°) in the years 1833 and 1834 was 64 inches, while at Santa Fé de Bogota (latitude $4^{\circ} 36'$, altitude 8685 feet, and mean temperature 58°) it only amounted to $39\frac{1}{2}$ inches.

† For the particulars of this observation, see my *Asie Centrale*, t. iii., p. 85-89 and 567; and regarding the amount of vapor in the atmosphere in the lowlands of tropical South America, consult my *Rélat. Hist.*, t. i., p. 242-248; t. ii., p. 45, 164.

‡ Kämtz, *Vorlesungen über Meteorologie*, s. 117.