

meridians of  $75^{\circ}$  and  $77^{\circ}$ , at 2450 toises; the Andes\* (at Peru, Quito, and New Grenada), at 1850 toises; the summit of the Alps and Pyrenees at 1150 toises. The difference of the mean height of the Cordilleras (between  $5^{\circ}$  north and  $2^{\circ}$  south lat.) and the Swiss Alps, is consequently 200 toises less than the difference of their loftiest summits; and in comparing the passes of the Alps, we see that their average height is nearly the same, although peak Nethou is 600 toises lower than Mont Blanc and Mont Rosa. Between the Himalaya† and the Andes, on the contrary, (considering those chains in the limits which I have just indicated), the difference between the mean height of the ridges and that of the loftiest summits presents nearly the same proportions.

Taking an analogous view of the groups of mountains at the east of the Andes, we find the average height of the coast-chain of Venezuela to be 750 toises; of the Sierra Parime, 500 toises; of the Brazilian group, 400 toises; whence it follows that the mountains of the eastern region of South America, between the tropics, are, when compared to the medium elevation of the Andes, in the relation of one to three.

The following is the result of some numerical statements, the comparison of which affords more precise ideas on the structure of mountains in general.‡

\* In the passage of Quindiu, between the valley of the Magdalena and that of the Rio Cauca, I found the culminant point (la Garita del Parama), to be 1798 toises; it is however, regarded as one of the least elevated. The passages of the Andes of Guanacas, Guamani, and Micuipampa, are respectively 2300, 1713, and 1817 toises above sea-level. Even in  $33^{\circ}$  south latitude, the road across the Andes between Mendoza and Valparaiso is 1987 toises high. I do not mention the Col de l'Assuay, where I passed, near la Ladera de Cadlud, on a ridge 2428 toises high, because it is a passage on a tranverse ridge joining two parallel chains.

† The passes of the Himalaya that lead from Chinese Tartary into Hindostan (Nitee-Ghaut, Bamsaru, &c.), are from 2400 to 2700 toises high.

‡ The *Cols* or passes indicate the minimum of the height to which the ridge of the mountains lowers in a particular country. Now, looking at the principal passes of the Alps of Switzerland (Col Terret, 1191 toises; Mont Cenis, 1060 toises; Great Saint Bernard, 1246 toises; Simplon, 1029 toises; and on the neck of the Pyrenees, Benasque, 1231 toises; Pinède, 1291 toises; Gavarnic, 1197 toises; Cavarère, 1151 toises; it would be difficult to affirm that the Pyrenees are lower than the average height of the Swiss Alps.