

of Hindokho, and of Himalaya, furnish frequent examples. We saw the appearance of flames in many parts of eastern America subject to earthquakes, even from secondary rocks, as at Cuchivero, near Cumanacoa. The fire shows itself when the ground, strongly heated by the sun, receives the first rains; or when, after violent showers, the earth begins to dry. The first cause of these igneous phenomena lies at immense depths below the secondary rocks, in the primitive formations: the rains and the decomposition of atmospheric water act only a secondary part. The hottest springs of the globe issue immediately from granite. Petroleum gushes from mica-schist; and frightful detonations are heard at Encaramada, between the rivers Arauca and Cuchivero, in the midst of the granitic soil of the Orinoco and the Sierra Parima. Here, as everywhere else on the globe, the focus of volcanos is in the most ancient soils; and it appears that an intimate connection exists between the great phenomena that heave up and liquify the crust of our planet, and those igneous meteors which are seen from time to time on its surface, and which from their littleness we are tempted to attribute solely to the influence of the atmosphere.

Duida, though lower than the height assigned to it by popular belief, is however the most prominent point of the whole group of mountains that separate the basin of the Lower Orinoco from that of the Amazon. These mountains lower still more rapidly on the north-east, toward the Purunama, than on the east, toward the Padamo and the Rio Ocamo. In the former direction the most elevated summits next to Duida are Cuneva, at the sources of the Rio Paru (one of the tributary streams of the Ventuari), Sipapo, Calitamini, which forms one group with Cunavami and the peak of Uniana. East of Duida, on the right bank of the Orinoco, Maravaca, or Sierra Maraguaca, is distinguished by its elevation, between the Rio Caurimoni and the Padamo; and on the left bank of the Orinoco rise the mountains of Guanaja and Yumariquin, between the Rios Amaguaca and Gehette. It is almost superfluous to repeat that the line which passes through these lofty summits (like those of the Pyrenees, the Carpathian mountains, and so many other chains of the old continent) is very distinct