

in the south of the ravine of Piedras Azules, are separated from the grünsteins and serpentine rocks that cover the declivity of the mountains north of the ravine. In the present state of knowledge I find difficulties almost equally great in adopting either of these suppositions; but I have no doubt that, when the real grünsteins (not the hornblende-grünsteins) contained in the gneiss and mica-slates, shall have been more attentively examined in other places; when the basalts (with pyroxene) forming strata in primitive rocks\* and the diabases and amygdaloids in the transition mountains, shall have been carefully studied; when the texture of the masses shall have been subjected to a kind of mechanical analysis, and the hornblendes better distinguished from the pyroxenes,† and the grünsteins from the dolerites; a great number of phenomena which now appear isolated and obscure, will be ranged under general laws. The phonolite and other rocks of igneous origin at Parapara are so much the more interesting, as they indicate ancient eruptions in a granite zone; as they belong to the shore of the basin of the steppes, as the basalts of Harutsh belong to the shore of the desert of Sahara; and lastly, as they are the only rocks of the kind we observed in the mountains of the Capitania-General of Caracas, which are also destitute of trachytes or trap-porphry, basalts, and volcanic productions.‡

The southern declivity of the western chain is tolerably steep; the steppes, according to my barometrical measurements, being a thousand feet lower than the bottom of the basin of Aragua. From the extensive table-land of the Villa de Cura we descended towards the banks of the Rio Tucutunemo, which has hollowed for itself, in a serpentine rock, a longitudinal valley running from east to west, at nearly the same level as La Victoria. A transverse valley, lying generally north and south, led us into the Llanos, by

\* For instance, at Krobsdorf, in Silesia, a stratum of basalt has been recognized in the mica-slate by two celebrated geologists, MM. von Buch and Raumer. (Vom Granite des Riesengebirges, 1813.)

† The grünsteins or diabases of the Fichtelgebirge, in Franconia, which belong to the transition-slate, sometimes contain pyroxenes.

‡ From the Rio Negro to the coasts of Cumana and Caracas, to the east of the mountains of Merida, which we did not visit.