

The zone of gneiss just mentioned is, in the coast-chain from the sea to the Villa de Cura, ten leagues broad. In this great extent of land, gneiss and mica-slate are found exclusively, and they constitute one formation.\* Beyond the town of Villa de Cura and the Cerro de Chacao the aspect of the country presents greater geognostic variety. There are still eight leagues of declivity from the table-land of Cura to the entry of the Llanos; and on the southern slope of the mountains of the coast, four different formations of rock cover the gneiss. We shall first give the description of the different strata, without grouping them systematically.

On the south of the Cerro de Chacao, between the ravine of Tucutunemo and Piedras Negras, the gneiss is concealed beneath a formation of serpentine, of which the composition varies in the different superimposed strata. Sometimes it is very pure, very homogeneous, of a dusky olive-green, and of a conchoidal fracture: sometimes it is veined, mixed with bluish steatite, of an unequal fracture, and containing spangles of mica. In both these states I could not discover in it either garnets, hornblende, or diallage. Advancing farther to the south (and we always passed over this ground in that direction) the green of the serpentine grows deeper, and feldspar and hornblende are recognised in it: it is difficult to determine whether it passes into diabasis or alternates with it. There is, however, no doubt of its con-

\* This formation, which we shall call gneiss-mica-slate, is peculiar to the chain of the coast of Caracas. Five formations must be distinguished, as MM. von Buch and Raumer have so ably demonstrated in their excellent papers on Landeck and the Riesengebirge, namely, granite, granite-gneiss, gneiss, gneiss-mica-slate, and mica-slate. Geologists whose researches have been confined to a small tract of land, having confounded these formations which nature has separated in several countries in the most distinct manner, have admitted that the gneiss and mica-slate alternate everywhere in superimposed beds, or furnish insensible transitions from one rock to the other. These transitions and alternating superpositions take place no doubt in formations of granite-gneiss and gneiss-mica-slate; but because these phenomena are observed in one region, it does not follow that in other regions we may not find very distinct circumscribed formations of granite, gneiss, and mica-slate. The same considerations may be applied to the formations of serpentine, which are sometimes isolated, and sometimes belong to the eurite, mica-slate, and grünstein.