

the limits here assigned to gneiss, as a predominant rock (long.  $68\frac{1}{2}^{\circ}$ — $70\frac{1}{2}^{\circ}$ ), gneiss passes sometimes to mica-slate, while the appearance of a transition to granite is only found on the summit of the Silla of Caracas.\* It would require a more careful examination than I was able to devote to the subject, to ascertain whether the granite of the peak of St. Gothard, and of the Silla of Caracas, really lies over mica-slate and gneiss, or if it has merely pierced those rocks, rising in the form of needles or domes. The gneiss of the littoral Cordillera, in the province of Caracas, contains almost exclusively garnets, rutile titanite, and graphite, disseminated in the whole mass of the rock, shelves of granular limestone, and some metalliferous veins. I shall not decide whether the granitiferous serpentine of the table-land of Buenavista is inclosed in gneiss, or whether, superposed upon that rock, it does not rather belong to a formation of weisstein (heptinite) similar to that of Penig and Mittweyde in Saxony.

In that part of the Sierra Parime which M. Bonpland and myself visited, gneiss forms a less marked zone, and oscillates more frequently towards granite than mica-slate. I found no garnets in the gneiss of Parime. There is no doubt that the gneiss-granite of the Orinoco is slightly auriferous on some points.

(c) MICA-SLATE, with clay-slate (thonschiefer), forms a continuous stratum in the northern chain of the littoral Cordillera, from the point of Araya, beyond the meridian of Cariaco, as well as in the island of Marguerita. It contains, in the peninsula of Araya, garnets disseminated in the mass, cyanite, and, when it passes to clayey-slate, small layers of native alum. Mica-slate constituting an independent formation, must be distinguished from mica-slate subordinate to a stratum of gneiss, on the east of Cape Codera. The mica-slate subordinate to gneiss, presents, in the valley of Tuy, shelves of primitive limestone and small strata of graphitic ampelite (zeichenschiefer); between Cabo Blanco and Catia, layers of chloritic, granitiferous slate, and slaty amphibole;

\* The Silla is a mountain of gneiss like Adam's Peak, in the island of Ceylon, and of nearly the same height.