

tution of the coast and the Sierra Parime, we prefer to treat of granite, gneiss, and mica-slate, if not as one formation, at least as three co-ordinate formations closely linked together. The primitive clay-slate (urthonschiefer) is subordinate to mica-slate, of which it is only a modification. It no more forms an independent stratum in the New Continent, than in the Pyrenees and the Alps.

(a) GRANITE which does not pass to gneiss is most common in the western part of the coast-chain between Turmero, Valencia, and Porto Cabello, as well as in the circle of the Sierra Parime, near the Encaramada, and at the Peak of Duida. At the Rincon del Diablo, between Mariara and Hacienda de Cura, and at Chuao, it is coarse-grained, and contains fine crystals of felspar, $1\frac{1}{2}$ inches long. It is divided in prisms by perpendicular vents, or stratified regularly like secondary limestone, at Las Trincheras, the strait of Baraguan in the valley of the Orinoco, and near Guapasoso, on the banks of the Atabapo. The stratified granite of Las Trincheras, giving birth to very hot springs (from $90\cdot5^{\circ}$ cent.), appears from the inclination of its layers, to be superposed on gneiss which is seen further southward in the islands of the lake of Valencia; but conjectures of superposition founded only on the hypothesis of an indefinite prolongation of the strata, are doubtful; and possibly the granite masses which form a small particular zone in the northern range of the littoral Cordillera, between $70^{\circ} 3'$ and $70^{\circ} 50'$ long., were upheaved in piercing the gneiss. The latter rock is prevalent, both in descending from the Rincon del Diablo southward to the hot-springs of Mariara, and towards the banks of the lake of Valencia, and in advancing on the east towards the group of Buenavista, the Silla of Caracas, and Cape Codera. In the region of the littoral chain of Venezuela, where granite seems to constitute an independent formation from 15 to 16 leagues in length, I saw no foreign or subordinate layers of gneiss, mica-slate, or primitive limestone.*

* Primitive limestone, everywhere so common in mica-slate and gneiss, is found in the granite of the Pyrenees, at Port d'Où, and in the mountains of Labourd.