

tion, we would distinguish mineralogically between the rocks of granite, gneiss, and mica-slate, it must be borne in mind that coarse-grained granite, not passing to gneiss, is very rare in this country. It belongs peculiarly to the mountains that bound the basin of the lake of Valencia towards the north; for in the islands of that lake, in the mountains near the Villa de Cura, and in the whole northern chain, between the meridian of Vittoria and Cape Codera, gneiss predominates, sometimes alternating with granite, or passing to mica-slate. Mica-slate is the most frequent rock in the peninsula of Araya and the group of Macanao, which forms the western part of the island of Marguerita. On the west of Maniquarez, the mica-slate of the peninsula of Araya loses by degrees its semi-metallic lustre; it is charged with carbon, and becomes a clay-slate (thonschiefer) even an ampelite (alaunschiefer). Beds of granular limestone are most common in the primitive northern chain; and it is somewhat remarkable that they are found in gneiss, and not in mica-slate.

We find at the back of this granitic, or rather micaslate-gneiss soil of the southern chain, on the south of the Villa de Cura, a transition stratum, composed of greenstone, amphibolic serpentine, micaceous limestone, and green and carbonated slate. The most southern limit of this district is marked by volcanic rocks. Between Parapara, Ortiz, and the Cerro de Flores (lat.  $9^{\circ} 28'$ — $9^{\circ} 34'$ ; long.  $70^{\circ} 2'$ — $70^{\circ} 15'$ ), phonolites and amygdaloids are found on the very border of the basin of the Llanos, that vast inland sea which once filled the whole space between the Cordilleras of Venezuela and Parime. According to the observations of Major Long and Dr. James, trap-formations (bulleuses dolerites and amygdaloids with pyroxene) also border the plains or basin of the Mississippi, towards the west, at the declivity of the Rocky Mountains. The ancient pyrogenic rocks which I found near Parapara where they rise in mounds with rounded summits, are the more remarkable as no others have hitherto been discovered in the whole eastern part of South America. The close connection observed in the strata of Parapara, between greenstone, amphibolic serpentine, and amygdaloids containing crystals of pyroxene; the form of the Morros of San Juan, which rise like cylinders above