secondary rocks.* The sea has separated the two northern Cordilleras, those of the island of Margareta and the peninsula of Araya; and the small islands of Coche and of Cubagua are remnants of the land that was submerged. Farther to the south, the vast gulf Cariaco stretches away, like a longitudinal valley formed by the irruption of the sea, between the two small chains of Araya and the Cocollar, between the mica-slate and the Alpine limestone. We shall soon see that the direction of the strata, very regular in the first of these rocks, is not quite parallel with the general direction of the gulf. In the high Alps of Europe, the great longitudinal valley of the Rhone also sometimes cuts at an oblique angle the calcareous banks in which it has been excavated.

The two parallel chains of Araya and the Cocollar were connected, to the east of the town of Cariaco, between the lakes of Campoma and Putaquao, by a kind of transverse dyke, which bears the name of Cerro de Meapire, and which in distant times, by resisting the impulse of the waves, has hindered the waters of the gulf of Cariaco from uniting with those of the gulf of Paria. Thus, in Switzerland, the central chain, that which passes by the Col de Ferrex, the Simplon, St. Gothard, and the Splügen, is connected on the north and the south with two lateral chains, by the mountains of Furca and Maloya. It is interesting to recall to mind those striking analogies exhibited in both continents by the external structure of the globe.

The primitive chain of Araya ends abruptly in the meridian of the village of Maniquarez; and the western slope of the peninsula, as well as the plains in the midst of which stands the castle of San Antonio, is covered with very recent formations of sandstone and clay mixed with gypsum. Near Maniquarez, breccia or sandstone with calcareous cement,

* In New Andalusia, the Cordillera of the Cocollar nowhere contains primitive rocks. If these rocks form the nucleus of this chain, and rise above the level of the neighbouring plains, which is scarcely probable, we must suppose that they are all covered with limestone and sandstone. In the Swiss Alps, on the contrary, the chain which is designated under the too vague denomination of lateral and calcareous, contains primitive rocks, which, according to the observations of Escher and Leopold von Buch, are often visible to the height of eight hundred or a thousand toises.