and between Caracas and Antimano, the more remarkable phenomenon of veins of gneiss inclosing balls of granitiferous diorite (grünstein).

In the Sierra Parime, mica-slate predominates only in the most eastern part, where its lustre has led to strange errors.

The amphibolic slate of Angostura, and masses of diorite in balls, with concentric layers, near Muitaco, appear to be superposed, not on mica-slate, but immediately on gneiss-granite. I could not, however distinctly ascertain whether a part of this pyritous diorite was not enclosed on the banks of the Orinoco, as it is at the bottom of the sea near Cabo Blanco, and at the Montaña de Avila, in the rock which it covers. Very large veins, with an irregular direction, often assume the aspect of short layers; and the balls of diorite heaped together in hillocks, may, like many cones of basalt, issued from the crevices.

Mica-slate, chloritic slate, and the rocks of slaty amphibole, contain magnetic sand in the tropical regions of Venezuela, as in the most northern regions of Europe. The garnets are there almost equally disseminated in the gneiss (Caracas), the mica-slate (peninsula of Araya), the serpentine (Buenavista), the chloritic slate (Cabo Blanco), and the diorite or greenstone (Antimano). These garnets re-appear in the trachytic porphyries that crown the celebrated metalliferous mountain of Potosi, and in the black and pyroxenic masses of the small volcano of Yana-Urca, at the back of Chimborazo.

Petroleum, (and this phenomenon is well worthy of attention) issues from a soil of mica-slate in the gulf of Cariaco. Further east, on the banks of the Arco, and near Cariaco, it seems to gush from secondary limestone formations, but probably that happens only because those formations repose on mica-slate. The hot springs of Venezuela have also their origin in, or rather below, the primitive rocks. They issue from granite (Las Trincheras), gneiss (Mariara and Onoto), and the calcareous and arenaceous rocks that cover the primitive rocks (Morros de San Juan, Bergantin, Cariaco). The earthquakes and subterraneous detonations, of which the seat has been erroneously sought in the calcareous mountains of Cumana, have been felt with