

V. FELSPATHIC SANDSTONE OF THE ORINOCO.—The gneiss-granite of the Sierra Parime is covered in some few places (between the Encaramada and the strait of Baraguan, and in the island of Guachaco), in its western part, with an olive-brown sandstone, containing grains of quartz and fragments of felspar, joined by an extremely compact clayey cement. This cement, where it abounds, has a conchoidal fracture, and passes to jasper. It is crossed by small veins of brown iron-ore, which separate into very thin plates or scales. The presence of felspar seems to indicate that this small formation of sandstone (the sole secondary formation hitherto known in the Sierra Parime), belongs to red sandstone or coal.* I hesitate to class it with the sandstone of the Llanos, the relative antiquity of which appears to me to be less satisfactorily verified.

VI. FORMATION OF THE SANDSTONE OF THE LLANOS OF CALABOZO.—I arrange the various formations in the order which I fancied I could discern on the spot. The carbonated slate (thonschiefer) of the peninsula of Araya connects the primitive rocks of gneiss-granite and micaslate-gneiss with the transition strata (blue and green slate, diorite, serpentine mixed with amphibole, and granular greenish-grey limestone) of Malpasso, Tucutunemo, and San Juan. On the south, the sandstone of the Llanos rests on this transition strata; it is destitute of shells, and composed, like the savannahs of Calabozo, of rounded fragments of quartz,† kieselschiefer, and Lydian stone, cemented by a ferruginous olive-brown clay. We there find fragments of wood, in great part monocotyledonous, and masses of brown iron-ore. Some strata, as in the Mesa de Paja, present grains of very

* Broken and intact crystals of felspar are found in the *totte liegende* coal-sandstone of Thuringia. I observed in Mexico a very singular agglomerated felspar formation, superposed upon (perhaps inclosed in) red sandstone, near Guanaxuato.

† In Germany, sandstones which belong unquestionably to red sandstone, contain also (near Weiderstadt, in Thuringia) nodules, and rounded fragments. I shall not cite the pudding-stone subordinate to the red sandstone of the Pyrenees, because the age of that sandstone destitute of coal may be disputed. Layers of very large rounded nodules of quartz are inclosed in the coal sandstone of Thuringia, and in Upper Silesia.