

transition-slates,* and on the south it rests immediately on the granites of the Orinoco. We observed in it rounded fragments of quartz (*kieselschiefer*), and Lydian stone, cemented by an olive-brown ferruginous clay. The cement is sometimes of so bright a red that the people of the country take it for cinnabar. We met a Capuchin monk at Calabozo, who was in vain attempting to extract mercury from this red sandstone. In the Mesa de Paja this rock contains strata of another quartzose sandstone, very fine-grained; more to the south it contains masses of brown iron, and fragments of petrified trees of the monocotyledonous family, but we did not see in it any shells. The red sandstone, called by the Llaneros, the *stone of the reefs* (*piedra de arrecifes*), is everywhere covered with a stratum of clay. This clay, dried and hardened in the sun, splits into separate prismatic pieces with five or six sides. Does it belong to the trap-formation of Parapara? It becomes thicker, and mixed with sand, as we approach the Rio Apure; for near Calabozo it is one toise thick, near the mission of Guayaval five toises, which may lead to the belief that the strata of red sandstone dips towards the south. We gathered in the Mesa de Pavones little nodules of blue iron-ore disseminated in the clay.

A dense whitish-gray limestone, with a smooth fracture, somewhat analogous to that of Caripe, and consequently to that of Jura, lies on the red sandstone between Tisnao and Calabozo.† In several other places, for instance in the Mesa de San Diego, and between Ortiz and the Mesa de Paja,‡ we find above the limestone lamellar gypsum alternating with strata of marl. Considerable quantities of this gypsum are sent to the city of Caracas,§ which is situated amidst primitive mountains.

This gypsum generally forms only small beds, and is mixed with a great deal of fibrous gypsum. Is it of the

* At Malpaso and Piedras Azules.

† Does this formation of secondary limestone of the Llanos contain galena? It has been found in strata of black marl, at Barbacoa, between Truxillo and Barquesimeto, north-west of the Llanos.

‡ Also near Cachipe and San Joaquin, in the Llanos of Barcelona.

§ This trade is carried on at Parapara. A load of eight arrobas sells at Caracas for twenty-four piastres.