

caverns in which the pluvial waters accumulate, and where small rivers disappear, sometimes causes a sinking of the earth. I am of opinion that the gypsum of the island of Cuba belongs, not to tertiary, but to secondary soil; it is worked in several places on the east of Matanzas, at San Antonia de los Baños, where it contains sulphur, and at the Cayos, opposite San Juan de los Remedios. We must not confound with this limestone of Guines, sometimes porous, sometimes compact, another formation so recent, that it seems to augment in our days. I allude to the calcareous agglomerates, which I saw in the islands of Cayos that border the coast between the Batabano and the bay of Xagua, principally south of the Cienega de Zapata, Cayo Buenito, Cayo Flamenco, and Cayo de Piedras. The soundings prove that they are rocks rising abruptly from a bottom of between twenty and thirty fathoms. Some are at the water's edge, others one-fourth or one-fifth of a toise above the surface of the sea. Angular fragments of madrepores, and cellularia from two to three cubic inches, are found cemented by grains of quartzose sand. The inequalities of the rocks are covered by mould, in which, by help of a microscope, we only distinguish the detritus of shells and corals. This tertiary formation no doubt belongs to that of the coast of Cumana, Carthagená, and the Great Land of Guadaloupe, noticed in my geognostic table of South America.* MM. Chamiso and Guiamard have recently thrown great light on the formation of the coral islands in the Pacific. At the foot of the Castillo de la Punta, near the Havannah, on shelves of cavernous rocks,† covered with verdant sea-

* M. Moreau de Jonnés has well distinguished, in his *Histoire physique des Antilles Françaises*, between the "Roche à ravets" of Martinique and Hayti, which is porous, filled with terebratulites, and other vestiges of sea-shells, somewhat analagous to the limestone of Guines and the calcareous pelagic sediment called at Guadaloupe "Platine," or "Maçonne bon Dieu." In the "cayos" of the island of Cuba, or "Jardinillos del Rey y del Reyna," the whole coral rock lying above the surface of the water, appeared to me to be fragmentary, that is, composed of broken blocks. It is, however, probable, that in the depth it reposes on masses of polypi still living.

† The surface of these shelves, blackened and excavated by the waters, presents ramifications like the cauliflower, as they are observed on the carrents of lava. Is the change of colour produced by the waters owing