

sandstone of Araya, I mean the muriatiferous clay. This clay, hardened, impregnated with petroleum, and mixed with lamellar and lenticular gypsum, is analogous to the salzthon, which in Europe accompanies the sal-gem of Berchtesgaden, and in South America that of Zipaquira. It is generally of a smoke-grey colour, earthy, and friable; but it encloses more solid masses of a blackish brown, of a schistose, and sometimes conchoidal fracture. These fragments, from six to eight inches long, have an angular form. When they are very small, they give the clay a porphyroidal appearance. We find disseminated in it, as we have already observed, either in nests or in small veins, selenite, and sometimes, though seldom, fibrous gypsum. It is remarkable enough, that this stratum of clay, as well as the banks of pure sal-gem and the salzthon in Europe, scarcely ever contains shells, while the rocks adjacent exhibit them in great abundance.

Although the muriate of soda is not found visible to the eye in the clay of Araya, we cannot doubt of its existence. It shows itself in large crystals, if we sprinkle the mass with rain-water and expose it to the sun. The lagoon to the east of the castle of Santiago exhibits all the phenomena which have been observed in the salt lakes of Siberia, described by Lepechin, Gmelin, and Pallas. This lagoon receives, however, only the rain-waters, which filter through the banks of clay, and unite at the lowest point of the peninsula. While the lagoon served as a salt-work to the Spaniards and the Dutch, it did not communicate with the sea; at present this communication has been interrupted anew, by faggots placed at the place where the waters of the ocean made an irruption in 1726. After great droughts, crystallized and very pure muriate of soda, in masses of three or four cubic feet, is still drawn from time to time from the bottom of the lagoon. The salt waters of the lake, exposed

rests on a slate-clay, mixed with quartzose sand; but there is no proof of the muriatiferous clay of the salt-works being of more ancient formation than this slate-clay, or of its alternating with banks of sandstone. No well having been dug in these countries, we can have no information respecting the superposition of the strata. The banks of calcareous sandstone, which are found at the mouth of the salt lake, and near the fishermen's huts on the coast opposite Cape Macano, appeared to me to lie beneath the muriatiferous clay.