

Proceeding along the southern coast, to the east of Maniquarez, we find running out into the sea very near each other, three strips of land, bearing the names of Punta de Soto, Punta de la Brea, and Punta Guaratarito. In these parts the bottom of the sea is evidently formed of mica-slate, and from it near Cape de la Brea, but at eighty feet distant from the shore, there issues a spring of naphtha, the smell of which penetrates into the interior of the peninsula. It is necessary to wade into the sea up to the waist, to examine this interesting phenomenon. The waters are covered with *zostera*; and in the midst of a very extensive bank of weeds, we distinguish a free and circular spot of three feet in diameter, on which float a few scattered masses of *Ulva lactuca*. Here the springs are found. The bottom of the gulf is covered with sand; and the petroleum, which, from its transparency and its yellow colour, resembles naphtha, rises in jets, accompanied by air bubbles. On treading down the bottom with the foot, we perceive that these little springs change their place. The naphtha covers the surface of the sea to more than a thousand feet distant. If we suppose the dip of the strata to be regular, the mica-slate must be but a few toises below the sand.

We have already observed, that the muriatiferous clay of Araya contains solid and friable petroleum. This geological connection between the muriate of soda and the bitumens is evident wherever there are mines of sal-gem or salt springs: but a very remarkable fact is the existence of a fountain of naphtha in a primitive formation. All those hitherto known belong to secondary mountains;\* a circumstance which has been supposed to favour the idea that all mineral bitumens are owing to the destruction of vegetables and animals, or to the burning of coal. In the peninsula of Araya, the naphtha flows from the primitive rock itself; and this phenomenon acquires new importance, when we recollect that the same primitive rocks contain the subterranean fires, that on the brink of burning craters the smell of petroleum is perceived from time to time, and that the greater part of the hot springs of America rise from gneiss and micaceous schist.

\* As at Pietra Mala; Fanano; Mont Zibio; and Amiano (in these places are found the springs that furnish the naphtha burned in lamps in Genoa); and also at Baikal.