

Struck with this phenomenon, I gathered at Higuerote a considerable quantity of branches and roots, for the purpose of making some experiments on the infusion of the mangrove, on my arrival at Caracas. The infusion in warm water had a brown colour and an astringent taste. It contained a mixture of extractive matter and tannin. The rhizophora, the misletoe, the cornel-tree, in short, all the plants which belong to the natural families of the loranthaceous and the caprifoliaceous plants, have the same properties. The infusion of mangrove-wood, kept in contact with atmospheric air under a glass jar for twelve days, was not sensibly deteriorated in purity. A little blackish flocculent sediment was formed, but it was attended by no sensible absorption of oxygen. The wood and roots of the mangrove placed under water were exposed to the rays of the sun. I tried to imitate the daily operations of nature on the coasts at the rise of the tide. Bubbles of air were disengaged, and at the expiration of ten days they formed a volume of thirty-three cubic inches. They were a mixture of azotic gas and carbonic acid. Nitrous gas scarcely indicated the presence of oxygen.* Lastly, I set the wood and the roots of the mangrove thoroughly wetted, to act on a given volume of atmospheric air in a phial with a ground-glass stopple. The whole of the oxygen disappeared; and, far from being superseded by carbonic acid, lime-water indicated only 0.02. There was even a diminution of the volume of air, more than correspondent with the oxygen absorbed. These slight experiments led me to conclude that it is the moistened bark and wood which act upon the atmosphere in the forests of mangrove-trees, and not the water strongly tinged with yellow, forming a distinct band along the coasts. In pursuing the different stages of the decomposition of the ligneous matter, I observed no appearance of a disengagement of sulphuretted hydrogen, to which many travellers attribute the smell perceived amidst mangroves. The decomposition of the earthy and alkaline sulphates, and their transition to the state of sulphurets, may no doubt favour this disengagement in many littoral and marine plants; for instance, in the fuci: but I am rather inclined to think that the rhizophora, the avicen-

* In a hundred parts there were eighty-four of nitrogen, fifteen of carbonic acid gas that the water had not absorbed, and one of oxygen.