

it difficult to answer with any degree of certainty. Whence comes the salt dissolved in such great quantities in the water of ocean? In other words, what is the cause of the saltiness of the sea?

We sometimes amuse ourselves, but very wrongly, by satisfying the eager questions of childhood with idle answers. Born near the shore of the Mediterranean, with its glorious mirror shining incessantly before my eyes, I put, in my young days, this question to my friends and attendants. Persons of reputed good sense found it entertaining—and thought it witty—to tell me that the sea was salt because ships were engaged to cast into it at regular intervals huge pyramids of salt, similar to those which lie heaped upon the border of our salterns. There is no irreverence in saying that the theories put forward by some scientific authorities to account for the ocean's saltiness are worth no more than the absurd explanation which puzzled my childish brain. Some assert that the salt is spontaneously engendered in the bosom of the seas; others that it is furnished by tributary rivers. Let us dismiss these puerile hypotheses, and take a more scientific view of the difficulty.

In the early ages of our planet, before the aqueous vapours contained in the primeval atmosphere were condensed, and had begun to descend in boiling rains on the terrestrial surface, the earth's crust contained an infinite variety of heterogeneous mineral matters, some soluble in water and others insoluble. When for the first time the showers fell on our burning globe, they absorbed all the soluble substances; then they flowed together, and collected in vast basins or depressions of the soil. In this manner were created the seas of the primeval earth; they were simply accumulations of the pluvial waters in capacious reservoirs, which held in solution everything that the strata they had washed were able to yield up to them. Marine salt, the sulphates of soda, magnesia, potash, and lime, of silica in the condition of soluble silicate—in a word, all the soluble matters which our planet can furnish—formed the mineral contingent of these waters. If we now reflect that, from the geological ages down to our own day, no change has taken place in the general laws of nature; if we consider that the soluble substances contained in the waters of the primeval seas have remained therein because not endowed with volatility; and that the fresh water of the rivers constantly replaces the water which is evaporated from the bosom of ocean; we obtain an explanation of the sea's salinity. The theory is very simple, but, for ourselves, we have not formulated any part of it, and accordingly