

narrowest part of the Straits of Gibraltar, where they are about nine miles broad, between the Isle of Tariffa and Alcanzar Point, the depth of water varies from 160 to 500 fathoms: but between Gibraltar and Ceuta, Captain Smyth sounded to the enormous depth of 950 fathoms, where he found a gravelly bottom, with fragments of broken shells. Saussure sounded to the depth of two thousand feet, within a few yards of the shore, at Nice; and M. Bérard has lately fathomed to the depth of more than six thousand feet in several places without reaching the bottom.*

The central abysses, therefore, of this sea are, in all likelihood, at least as deep as the Alps are high; and, as at the depth of seven hundred fathoms only, water has been found to contain a proportion of salt four times greater than at the surface, we may presume that the excess of salt may be much greater at the depth of two or three miles. After evaporation, the surface water becomes impregnated with a slight excess of salt, and its specific gravity being thus increased, it instantly falls to the bottom, while lighter water rises to the top, or flows in laterally, being always supplied by rivers and the current from the Atlantic. The heavier fluid, when it arrives at the bottom, cannot stop if it can gain access to any lower part of the bed of the sea, not previously occupied by water of the same density.

How far this accumulation of brine can extend before the inferior strata of water will part with any of their salt, and what difference in such a chemical process the immense pressure of the incumbent ocean, or the escape of heated vapours, thermal springs, or submarine volcanic eruptions, might occasion, are questions which cannot be answered in the present state of science.

The Straits of Gibraltar are said to become gradually wider by the wearing down of the cliffs on each side at many points; and the current sets along the coast of Africa, so as to cause considerable inroads in various parts, particularly near Carthage. Near the Canopic mouth of the Nile, at Aboukir, the coast was greatly devastated in the year 1784, when a small island was nearly consumed. By a series of similar operations, the old site of the cities of Nicopolis, Taposiris, Parva, and Canopus, have become a sand-bank.†

* Bull. de la Soc. Géol. de France. — and Africa, vol. iii. pp. 340. and 363. Résumé, p. 72. 1832. 4th edition.

† Clarke's Travels in Europe, Asia,