

snow-white salt, the offspring of evaporation." "If," says Mr. Hugh Miller, "we suppose, instead of a barrier of lava, that sand-bars were raised by the surf on a flat arenaceous coast during a slow and equable sinking of the surface, the waters of the outer gulf might occasionally topple over the bar, and supply fresh brine when the first stock had been exhausted by evaporation."\*

We may add that the permanent impregnation of the waters of a large shallow basin with salt, beyond the proportion which is usual in the ocean, would cause it to be uninhabitable by mollusks or fish, as is the case in the Dead Sea, and the muriate of soda might remain in excess, even though it were occasionally replenished by irruptions of the sea. Should the saline deposit be eventually submerged, it might, as we have seen from the example of the Runn of Cutch, be covered by a freshwater formation containing fluviatile organic remains; and in this way the apparent anomaly of beds of sea-salt and clays devoid of marine fossils, alternating with others of freshwater origin, may be explained.

Dr. G. Buist, in a recent communication to the Bombay Geographical Society (vol. ix.), has asked how it happens that the Red Sea should not exceed the open ocean in saltness, by more than  $\frac{1}{10}$ th per cent. The Red Sea receives no supply of water from any quarter save through the Straits of Babelmandeb; and there is not a single river or rivulet flowing into it from a circuit of 4000 miles of shore. The countries around are all excessively sterile and arid, and composed, for the most part, of burning deserts. From the ascertained evaporation in the sea itself, Dr. Buist computes that nearly 8 feet of pure water must be carried off from the whole of its surface annually, this being probably equivalent to  $\frac{1}{100}$ th part of its whole volume. The Red Sea, therefore, ought to have 1 per cent. added annually to its saline contents; and as these constitute 4 per cent. by weight, or  $2\frac{1}{2}$  per cent. in volume of its entire mass, it ought, assuming the average depth to be 800 feet, which is supposed to be far beyond the truth, to have been converted into one solid salt formation in less than 3000 years.† Does the Red Sea receive a supply of water from the ocean, through the narrow Straits of Babelmandeb, sufficient to balance the loss by evaporation? And is there an under-current of heavier saline water annually flowing outwards? If not, in what manner is the excess of salt disposed of? An investigation of this subject by our nautical surveyors may perhaps aid the geologist in framing a true theory of the origin of rock-salt.

*On the New Red Sandstone of the valley of the Connecticut River in the United States.*

In a depression of the granitic or hypogene rocks in the States of Massachusetts and Connecticut, strata of red sandstone, shale, and con-

\* Hugh Miller, *First Impressions of England*, 1847, pp. 183, 214.

† Buist, *Trans. of Bombay Geograph. Soc.* 1850, vol. ix. p. 38.