

exists here which, at one time, communicated with the sea ; the winds having raised this sandy dune, the gulf becomes transformed, by degrees, into a basin or back-water, closed on all sides. However that may be, it is pretty certain that if the waters of the sea were once shut up in this basin, with an argillaceous bottom and without any opening, evaporation from the effects of solar heat would take place, and a bed of salt would be the result of this evaporation, mixed with other mineral salts which accompany chloride of sodium in sea-water, such as sulphate of magnesia, chloride of potassium, &c. This bed of salt, left by the evaporation of the water, would soon receive an argillaceous covering from the clay and silt suspended in the muddy water of the basin, thus forming a first alternation of salt and of clay or marl. The sea making fresh breaches across the barriers, the same process took place with a similar result, until the basin was filled up. By the regular and tranquil repetition of this phenomenon, continued during a long succession of ages, this abundant deposit of rock-salt has been formed, which occupies so important a position in the Secondary rocks.

There is in the delta of the Indus a singular region, called the Runn of Cutch, which extends over an area of 7,000 square miles, which is neither land nor sea, but is under water during the monsoons, and in the dry season is incrustated, here and there, with salt about an inch thick, the result of evaporation. Dry land has been largely increased here, during the present century, by subsidence of the waters and upheavals by earthquakes. "That successive layers of salt may have been thrown down one upon the other on many thousand square miles, in such a region, is undeniable," says Lyell. "The supply of brine from the ocean is as inexhaustible as the supply of heat from the sun. The only assumption required to enable us to explain the great thickness of salt in such an area, is the continuance for an indefinite period of a subsidence, the country preserving all the time a general approach to horizontality." The observations of Mr. Darwin on the atolls of the Pacific, prove that such a continuous subsidence is probable. Hugh Miller, after ably discussing various spots of earth where, as in the Runn of Cutch, evaporation and deposit take place, adds : "If we suppose that, instead of a barrier of lava, 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 a fresh brine when the first stock had been exhausted by evaporation."

Professor Ramsay has pointed out that both the sandstones and