

beds of gypsum, there was a thin stratum of carbonaceous matter, which soiled the fingers like coal smut; this is the only instance of carbonaceous matter found in gypsum that I am acquainted with.

Transparent, colourless rock-salt consists of muriate of soda, nearly in the highest state of purity; or, according to Sir. H. Davy, of chlorine and sodium. It has so little water of crystallization, that it scarcely decrepitates when thrown on burning coals, in which it differs from salt prepared artificially by evaporation. Specimens of rock-salt brought from the Polish mines, are less disposed to deliquesce, than those from Cheshire. The deep red colour, very common to rock-salt, is derived from the oxide of iron. Rock-salt in detached masses frequently lies imbedded in clay or marl; the clay is often much impregnated with salt, which is extracted from it by solution in water. The almost constant occurrence of sulphate of lime (gypsum) with rock-salt, is also a fact of considerable interest. It is curious to observe the two most powerful acids, the sulphuric and muriatic, so nearly associated in the same place. This fact, in a more advanced state of science, may elucidate the chemical changes which have effected the formation of these minerals.

The most natural hypothesis respecting the formation of rock-salt, at least in some situations, is that before stated, which attributes it to the gradual evaporation of lakes and pools of salt water, which remained, when the ocean retired from the present continents. This mineral, by slow evaporation, would be separated from the impure salts that exist in sea water; and as these salts are more deliquescent than rock-salt, they might be washed away, before the beds of rock-salt were covered with earthy strata.

The occurrence of anhydrous gypsum with rock-salt, which is also anhydrous, would, however, indicate the action of heat, in the formation of these minerals, for it is scarcely possible to conceive any mode of aqueous deposition, that could form anhydrous gypsum: but common gypsum might be fused by heat, and its water of crystallization expelled; it would then be converted into anhydrous gypsum. From the observations of M. Carpentier at Bex, it appears, that the great beds of gypsum associated with rock-salt, when they are laid open to the atmosphere, are always found to be anhydrous, but they soon absorb water, and are converted into common gypsum. The saliferous gypsum in other parts of the Alps, is also anhydrous; and if it should appear that the beds of gypsum associated with rock-salt in other countries are anhydrous, where they have not been exposed to the action of moisture, it would add much probability to the opinion, that the consolidation of rock-salt and gypsum had been effected by heat.

Before concluding the account of the red marl and sandstone formation, it may be proper to state, that foreign geologists contend for the existence of a red sandstone over coal, which is laid conformably