

tracts of magnesian limestone. It is complicated with purple (Doncaster), yellow (Sunderland), or is totally replaced by a pure or creamy whiteness. The various modes and degrees of consolidation already noticed among these limestones, imply, of course, different modes of aggregation: for the shelly rocks of Hawthorndean and Humbleton (Durham), we may, with some confidence, claim a corallaginous origin: the globular concretions of Sunderland remind us of the pisolite of Carlsbad, and, according to an unpublished suggestion of Dr. Forchhammer, may be really due to ancient submarine springs of great force, yielding mingled carbonates of lime and magnesia, which were afterwards consolidated together, or separately deposited. The dusty portions of rock seem to be really decomposed; and it is worthy of remark, that the tufaceous deposits from these rocks, as well as the crystallised spars in geodes, consist of carbonate of lime.

There appears no reason whatever to apply to these magnesian rocks either the speculation of Von Buch concerning Alpine dolomites, that they are common limestones impregnated with carbonate of magnesia by heat, or the notion of their mechanical origin from disintegrated magnesian beds of the carboniferous limestone.

Origin of Rock Salt and Gypsum.

In the present state of nature salt (chloride of sodium) appears in solution at the surface, under the following circumstances:—

1. In the sea, every where, but in variable quantities.
2. In springs arising from salt rocks, known or presumed to exist.
3. In springs arising in volcanic regions.
4. In small quantity in all springs whatever.

It is only by considering these existing sources of salt in combination with the phenomena accompanying ancient salt deposits, that we can expect to gain light toward the solution of the problem of the formation of rock salt.

This general investigation would here be out of place;