

This force is perhaps justly considered unequal to the effects now seen, but it must be remembered that it was synchronous with the slow growth of the limestone beds of that period, and great masses of limestone composed entirely of shells as at Windsor, Brookfield, Shubenacadie, and other places, and that the springs issuing on lines of pre-existing fractures would become shifted by the dynamic changes of pressure of accumulating strata, and gradually traverse considerable areas.

This apparently insignificant power may thus have produced effects similar to the fall of the leaf, which has preserved to our use masses of vegetable matter now compressed into beds sometimes 30 to 40 feet in thickness.

These deposits, however formed, were gradually buried by the succeeding sediments, and under heat and pressure probably became anhydrous. In the march of time, when the strata were again exposed to the weathering of the atmosphere, water, etc., the anhydrite once more became hydrated.

This would appear from crystals of anhydrite occurring with their edges converted into gypsum, and from the lenticular masses of anhydrite embedded in the gypsum. This is also confirmed by the action of anhydrite from a deep boring at Goderich, Ontario, which, when placed in fresh or salt water at ordinary temperatures, rapidly became hydrated. Silliman found that the gypsum of the East River of Picton, like that of South Virginia, contained one atom of water to two of sulphate of lime, and gave the following analysis:—

Sulphuric acid	...	...	...	...	...	54.7
Lime	...	...	...	...	...	39.4
Water	...	...	...	...	...	5.9
						<u>100.0</u>

This compound may illustrate the transition stage. The writer believes the gypsum forming marine boiler incrustations sometimes presents a similar composition.

The veins and irregular masses of gypsum and selenite found in the associated limestones and marls, and in the triassic sandstones, and occurring as films and plates in the coal seams, are probably a later deposit from aqueous solutions.

The broken and dislocated appearance of the strata immediately surrounding the gypsum was formerly considered a proof of their intrusive origin, and is now generally considered to be due to the expansion caused by absorption of water by the gypsum. This disturbance of the