

7.—DOLomite OR MAGNESIAN LIMESTONE.

It is very rarely indeed that limestones of this State are not found to contain some proportion or other of magnesia, but the name dolomite is restricted to such as contain a considerable proportion of this earth. Strictly speaking, the term dolomite is applicable only to definite compounds of carbonates of magnesia and lime. This rock occurs usually in small crystalline grains, having a much higher lustre than ordinary granular limestone, and is more slowly dissolved in acids.

GEOLOGICAL FORMATIONS.

The technical meaning of the term *rock*, in geology, has already been explained, and there appears to be good reason for stating the geological meaning of the word *formation*. It should be applied only to an assemblage of rocks or sedimentary deposits of common origin or period of deposit.

I reproduce here from the first report a table of the geological formations of our State in the order of the antiquity of their origin, as has been supposed by geologists. For a long period there seemed to be sufficient evidence to believe that granite wherever it exists was the oldest of all, and that the non-fossiliferous rocks were successively formed in the order of arrangement in the table. It has been proven, however, that granite and other intrusive rocks have been formed during various geological periods. It may be questioned whether gneiss and other metamorphic rocks, 5 to 7, are not in most cases older than the intrusive rocks, No. 1 to 4, which it is believed were pushed up through them whilst in a state of fusion. I do not propose, however, to continue this interesting subject at this time.

These formations were described, and with the aid of the map and their ranges in our State, indicated in chap. III of the report of 1860. A reference thereto will be useful to those desiring to understand the geological position of the mineral resources to be hereinafter described. There does not seem to be a necessity for repeating the descriptions of the former report. My researches within the last two years, it is true, would enable me to add a large amount of useful information, provided it could be illustrated with the aid of accurate maps on a larger scale. This could not be done for want of an appropriation for topographical and artistic aid.