

structure which, on this theory of their origin, might have been looked for.

Dolomite has been produced both on a small and on a great scale. In the north of England and elsewhere, the Carboniferous Limestone has been altered for a few feet or yards on either side of its joints into a dull yellow dolomite, locally termed "dunstone." Similar vertical zones of dolomite occur also in the Carboniferous Limestone of Ireland. Harkness pointed out that the dolomite appears in vertical ribs where the rocks are much jointed, and in beds where they have few or no joints.⁵⁹ No doubt percolating water has been the agent of change in the vertical zones. The beds, however, which in Ireland and elsewhere constitute important masses in the Carboniferous Limestone, were more probably formed contemporaneously with the rocks among which they lie. They may have been deposited as limestone in shallow lagoons where the magnesian salts of concentrated sea-water would act upon them. Dolomite sometimes forms great ranges of mountains, as in the Eastern Alps, where it has by some writers been regarded as altered ordinary limestone. But these masses may have partly, at least, become dolomite at the beginning by the action of the magnesian salts of the concentrated waters of inland seas upon organic or inorganic calcareous deposits accumulated previous to the concentration, their metamorphism having consisted mainly in the subsequent generation of a crystalline structure analogous to that of the conversion of limestone into marble.⁶⁰

⁵⁹ Q. J. Geol. Soc. xv. p. 100.

⁶⁰ On dolomitization, see L. von Buch, in Leonhard's *Mineralog. Taschenbuch*, 1824; Naumann's "Geognosie," i. p. 763; Bischof's "Chemical Geology," iii.; Élie de Beaumont, *Bull. Soc. Geol. France*, viii. 1836, p. 174; Sorby, *Brit. Assoc. Rep.* 1856, part ii. p. 77, and *Address Q. J. Geol. Soc.* 1879. A full