

takes up augment its capacity for effecting mineral transformations. The influence of dissolved alkaline carbonates in promoting the decomposition of many minerals was long ago pointed out by Bischof. In 1857 Sterry Hunt showed by experiments that water impregnated with these carbonates would, at a temperature of not more than 212° Fahr., produce chemical reactions among the elements of many sedimentary rocks, dissolving silica and generating various silicates.³² Daubrée likewise proved that in presence of dissolved alkaline silicates, at temperatures above 700° Fahr., various siliceous minerals, as quartz, felspar, and pyroxene, could be crystallized, and that at this temperature the silicates would combine with kaolin to form felspar.³³

The presence of fluorine has been proved experimentally to have a remarkable action in facilitating some precipitates, especially tin oxides, as well as in other parts of the mechanism of mineral veins.³⁴ Further illustrations of the important part probably played by this element in the crystallization of some minerals and rocks have been published by Ste. Claire Deville and Hautefeuille, who by the use of compounds of fluorine have obtained such minerals as rutile, brookite, anatase and corundum in crystalline form.³⁵ Elie de Beaumont inferred that the mineralizing influence of fluorine had been effective even in the crystallization of granite. He believed that "the volatile compound inclosed in granite, before its consolidation contained not only water, chlorine, and sulphur, like the substance disengaged from

³² Phil. Mag. xv. p. 68.

³³ Bull. Soc. Geol. France, xv. (1885), p. 103.

³⁴ First suggested by Daubrée, Ann. des Mines (1841), 3me ser. xx. p. 65.

³⁵ Comptes Rendus, xlvi. p. 764 (1858); xlvii. p. 89; lvii. p. 648 (1865). Fouqué and Michel-Lévy, "Synthèse des Minéraux et des Roches."