

als successfully reproduced are quartz, tridymite, olivine, pyroxene, enstatite, wollastonite, zircon, emerald, ruby, melanite, melilite, several feldspars, leucite, nepheline, meionite, petalite, several zeolites, diopside, rutile, brookite, anatase, perowskite, sphene, calcite, aragonite, dolomite, witherite, siderite, cerusite, malachite, corundum, diaspore, spinel, hæmatite, vivianite, apatite, anhydrite, diamond with many metallic ores.³⁰

Artificial alteration of internal structures.—Besides showing the solvent power of superheated water and vapor upon glass in illustration of what happens within the crust of the earth, Daubrée's experiments possess a high interest and suggestiveness in regard to the internal rearrangements and new structures which water may superinduce upon rocks. Hermetically sealed glass tubes containing scarcely one-third of their weight of water, and exposed for several days to a temperature below an incipient red heat, showed not only a thorough transformation of structure into a white, porous, kaolin-like substance, incrustated with innumerable bipyramidal crystals of quartz, like those of the drusy cavities of rocks, but had acquired a very distinct fibrous and even an eminently schistose structure. The glass was found to split readily into concentric laminæ arranged in a general way parallel to the original surfaces of the tube, and so thin that ten of them could be counted in a breadth of a single millimetre. Even where the glass, though attacked, retained its vitreous character, these fine zones appeared like the lines of an agate. The whole structure recalled that of some schistose and crystalline rocks. Treated with acid, the altered glass crumbled and permitted the isolation of

³⁰ Fouqué and Michel-Lévy, "Synthèse des Minéraux et des Roches."